RIT | National Technical Institute for the Deaf

2020
Annual Report

2020 Annual Report

National Technical
Institute for the Deaf

Note of Explanation

This Annual Report notes activities and accomplishments throughout Fiscal Year 2020 (October 1, 2019 - September 30, 2020), corresponding primarily to Academic Year 2019-2020. References to Fiscal Year 2021 correspond to characteristics and accomplishments as of fall semester Academic Year 2020-2021.

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

NTID FY 2020 Annual Report Contents

Contents (continued)

Contents (continued)

RIT | Office of the
President

Rochester Institute of Technology
George Eastman Hall
2 Lomb Memorial Drive
Rochester, NY 14623-5604
585-475-2394 voice
Fax: 585-475-7470

December 21, 2020

The Honorable Betsy DeVos
Secretary of Education
U.S. Department of Education
400 Maryland Avenue, S.W.
Washington, DC 20202

Dear Secretary DeVos:

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…"

As always, we begin our report as we begin each academic year and each new initiative – with our mission:

> *To provide deaf and hard-of-hearing students with outstanding state-of-the-art technical and professional education programs, complemented by a strong liberal 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.*

In FY 2020, RIT and NTID learned a great deal about our community, our adaptability and our resilience. After shifting abruptly to 100% remote learning in March, we reopened campus for the fall semester and successfully completed all 13 weeks of in-person instruction without having to suspend or cancel classes due to coronavirus outbreaks. NTID was represented in all areas of RIT's coronavirus response, and NTID staff produced more than 30 videotaped sign language translations of major coronavirus campus communications for deaf and hard-of-hearing students. Due to our preventative measures and the commitment of our students, the rates of infection for students and employees were just over .5% for the semester.

In addition to celebrating a successful in-person fall semester, we also recognize that NTID students who graduated in 2019 had a 95% employment rate, even in 2020. 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. A member of RIT/NTID's class of 2009, Dr. Tiffany Panko, MD, was hired as director of the Deaf Health Laboratory, which will conduct research in the deaf community in the areas of preventive health, health literacy, and the deaf experience in health care. NTID researchers also contributed to RIT's record $82-million-dollar total for sponsored research funding this past fiscal year, including a $1 million award from NIH to examine the effects of auditory development, cognitive function and language outcomes in young deaf adults. Finally, this summer, NTID accepted its first cohort of students into the new AAS program in Business Administration, which expands business opportunities for students beyond the current accounting and administrative support technology offerings.

We are strengthened by the tenacity and compassion of the entire RIT community to continue to pursue their academic and professional goals while doing their part to keep themselves and each other safe. As you will see in this report, NTID's success story continues to be told even in the context of a global pandemic.

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

https://www.rit.edu/ntid/president#annual-report

With warm regards,

Gerard J Buckley

David C. Munson, Jr.   Gerard J. Buckley '78
President   President, NTID
                                        Vice President and Dean, RIT

Cover Photo

RIT/NTID students walk down the Quarter Mile on RIT's campus during Orientation for the fall 2020 semester. Due to a number of campus-wide protocols, including mandatory mask wearing, RIT was able to provide an on-campus fall semester to students.

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 provide a glimpse of what NTID looks like today.

Student Enrollment

1,101 TOTAL ENROLLMENT

BREAKDOWN BY GEOGRAPHIC REGION:

97% U.S.

16% West

16% Midwest

46% Northeast

19% South

3% International
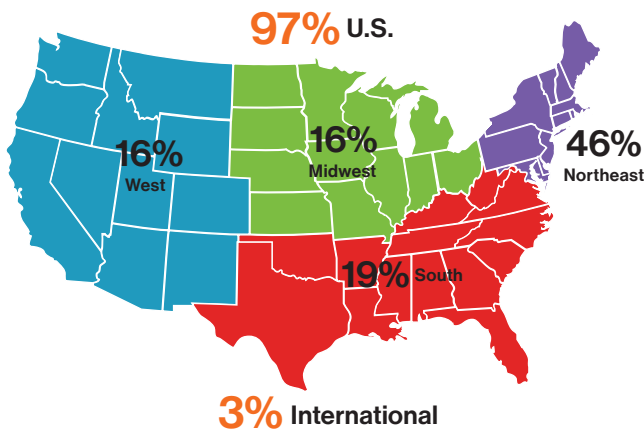
BREAKDOWN BY GENDER:

47% MALE

53% FEMALE
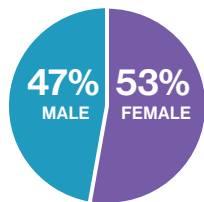
MORE THAN
9,300
ALUMNI

Academics

10% Graduate Degree Programs

2% Career Exploration Studies

16% ASL-English Interpretation

18% Career-Focused Associate Degree Programs

38% Bachelor's Degree Programs

16% Associate+Bachelor's Degree Programs
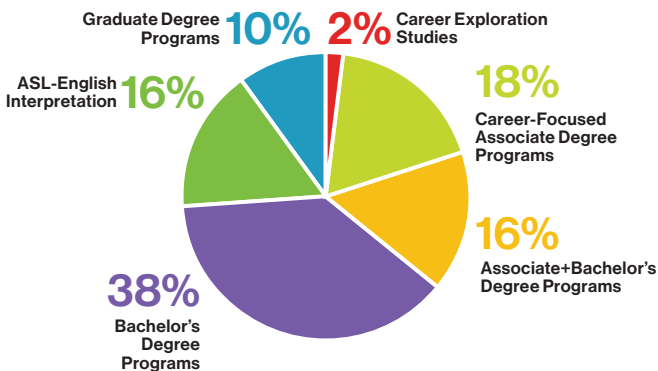
Employment/Earnings After College

181 STUDENTS COMPLETED A CO-OP LAST YEAR

New RIT/NTID grads are ready to succeed

95% of students who sought jobs after graduation found one within a year

New RIT/NTID alumni thrive in all economic sectors

Education & Non-Profit **16%**

7% Government

77% Business & Industry
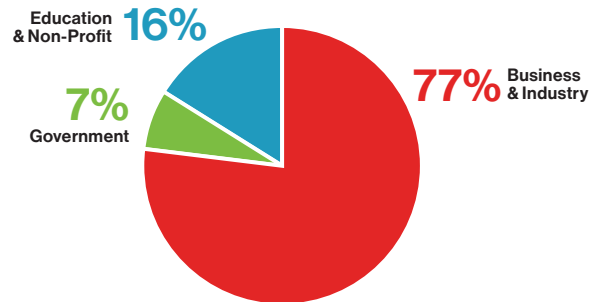
Employers include:

Amazon, Dow Chemical Company, Fidelity Investment, General Electric, Microsoft Corporation, National Geospatial Intelligence, Prudential, Tobyhanna Army Depot

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

	In Classroom	Outside Classroom
Interpreting	82,576	35,664
Captioning	20,501	1,355
Notetaking	40,475	

RIT/NTID Response to COVID-19 Pandemic

In early 2020, the world began to become aware of the Novel Coronavirus SARS-CoV-2, or COVID-19. New York City and surrounding areas were particularly hard hit, with the number of cases and deaths rising at an alarmingly rapid rate.

On the RIT campus, several committees were established:
- COVID-19 Task Force and Policy
- Academic Preparedness
- Community Readiness and Education
- Infrastructure Readiness

Each committee had representation from NTID.

A decision was made to close campus and continue the semester remotely. Campus was depopulated of all students and employees on March 16. International students who were not allowed or unable to travel home were accommodated, and essential workers (facilities, food service, public safety, etc.) continued to work.

NTID began developing a number of communications to the college community including students, employees, alumni, parents and friends, to ensure timely delivery of messaging about rapidly changing circumstances. While still on campus, those communications were filmed in-studio by NTID administrators. Once campus was depopulated, a team was assembled from NTID's Communications, Marketing, and Multimedia Services and Access Services departments to remotely produce sign language translations of important messages for the NTID community. This process now includes members of NTID's Counseling and Academic Advising and Diversity and Inclusion departments as on-camera talent, as needed.

A number of major events had to be postponed or canceled as a result of the pandemic:
- Imagine RIT: Innovation + Creativity Festival, the university's annual expo of new and unique discoveries by faculty, staff and students
- Convocation and Commencement Ceremonies for graduating seniors, graduate students and Ph.D. candidates
- Deaf Awareness Day at the Rochester Red Wings, the second year of a successful collaboration with the Rochester AAA baseball team, honoring the diversity and richness of the Rochester Deaf community, of which NTID plays a prominent part
- NTID Student Research Fair
- Various end-of-year festivities organized by student clubs

The remainder of spring and all of summer semester were spent monitoring COVID-19 conditions internationally, nationally, statewide and locally, and planning for a variety of scenarios for reopening in fall.

As with spring planning, members of the NTID community were intricately involved in the university's planning for fall.

Prior to re-opening the campus, a number of systems were put in place:
- COVID testing of all students and employees
- safety training modules for staff and students (with sign language translation)
- Daily Health Screen and supervisor verification
- wastewater testing
- random on-site testing
- requirement of seasonal flu vaccines in order to return in spring 2021
- color-coded alert levels to keep community informed of daily levels of virus detection on campus
- quarantine and isolation protocols

- education plan for preparation and prevention of the spread of the virus
- QR codes in all classrooms, labs, and common areas for contact tracing
- call center to answer questions from employees, students and families about all aspects of housing, opening, finance, and more
- RIT Ready website
- RIT weekly digest

To ensure that deaf and hard-of-hearing students received communication in the most effective way, videotaped sign language translations of major messages have been created. To date, more than 30 videotaped messages have been created.

As the country's COVID-19 rates have increased, RIT has moved from the Green or lowest alert level, to Yellow and in early November, to Orange. This level notes that the prevalence has increased above baseline and that indicators show rates of infection increasing. The following steps have been taken to mitigate further spread for the rest of the semester:

- Mask requirements
    - Masks must be worn outdoors at all times when in the presence of others.
    - When dining with others, remove masks only to eat or drink and put masks back on immediately whenever talking.
    - These masking practices should be followed whether on or off campus.

- Residence Halls, guests and visitors
    - All common residential areas (lounges, kitchens, etc.) are reduced to 25 percent capacity or fully closed depending on use type. Specific occupancy restrictions will be posted in the various spaces. In the spaces that remain open, eating will not be permitted and masks must be worn at all times.
    - Students living in university residential areas are not permitted to have guests in their room/apartment. Residents are not permitted to visit other floors or apartments.
    - Students living off-campus are strongly advised to follow the same practice, and not have guests at their residences.

- Dining
    - Seating in indoor dining areas has been reduced to a maximum of two people per table and six feet of distance must be maintained at all times.
    - Dining is still allowed in designated dining areas in academic buildings, as long as six feet of distance is maintained between individuals.
    - If eating outdoors, larger groups may eat together, but six feet of distance must be maintained between each person.

- Events
    - All non-instructional indoor events/activities are limited to 10 people.
    - Outdoor events will continue to adhere to the 33 percent capacity limit and will require participants to wear a mask and maintain six feet of physical distancing.

- Team sports
    - The suspension of activities and practices for all intercollegiate athletic teams, club sports, and intramurals remains in effect until further notice. The suspension of activities and practices does not apply to training services and supervised strength and conditioning for intercollegiate athletics, which will continue by appointment only and only in accordance with the provisions of the RIT Safety Plan.

- Performing arts clubs
    - Participants must be masked and maintain distance at all time.
    - If you are unable to wear a mask (i.e. wind or brass instruments, vocalists, etc.) the activity must occur outside and participants must be 12 feet apart
    - Performing arts activities that involve physical activity (i.e. dance) must occur outside whenever possible. Participants must be 12 feet apart and masked whether outdoors or indoors.

A plan to provide COVID-19 tests for students prior to their departure for Thanksgiving/semester break also was put in place.

Unlike other institutions, RIT did not have to shut its doors or switch to remote learning after reopening for the fall 2020 (FY 2021) semester. However, improvements for the spring semester have been underway. RIT is developing saliva testing protocols for campus as part of its plan to monitor the prevalence of the coronavirus. A campus task force made up of researchers, scientists, and healthcare professionals has assessed resource needs and worked with community partners to determine overall processes. Laboratories are in place, process controls and training are finalized, and saliva testing will be fully operational in the spring. Saliva test results will be determined same day, compared to current nasal swab tests that are sent to an off-site lab for results.

RIT and NTID anticipate further changes as circumstances warrant, but are cautiously hopeful for a successful spring semester.

Annual Highlights

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

- NTID's most recent employment rate for deaf and hard-of-hearing graduates in 2019 is 95%. The average employment rate over the past five years is 95%.
- 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.
- In November 2019, NTID and Beijing Union University in China signed a Memorandum of Understanding to establish student and faculty exchange programs and short- and long-term teaching, learning, research, innovation, discovery and global outreach missions.
- NTID was one of four entities selected to create cost-effective packages of high-quality accessible children's books in seven underserved spoken languages and nine sign languages, serving regions of the world where children have few or no books for preschool or kindergarten. NTID will create 200 leveled sign-language books in six sign languages (Filipino, Indonesian, Somali, Papua New Guinea, Fiji and Samoan) for a total of 1,200 books. Some of the new stories will be about the deaf experience, and 40 of the books will have STEM content.
- In July 2020, NSF awarded NTID almost $300,000 for a first-of-its-kind survey that will revolutionize understanding of a key phase of binary star evolution using NASA and the European Space Agency's flagship missions and some of the largest telescopes on the planet. For the life of the award, several NTID baccalaureate students will work on this research each summer at Boston University, NTID's collaborator on the project.
- In August 2020, Tiffany Panko, MD, '09, was named director of the Deaf Health Laboratory, part of NTID's Research Center on Culture and Language. In her new role, Dr. Panko will oversee the Deaf Health Laboratory's mission to conduct research in the deaf community in the areas of preventive health, health literacy, health knowledge, and the deaf experience in health care.
- In August 2020, NTID's Center on Access Technology launched its TigerChat™ app to facilitate communication between deaf and hearing students in a mask-wearing environment. TigerChat can be used to converse with another person or group using automatic speech recognition technology and typing without needing to press the "send" button.
- More than half (52%) of NTID's fall 2020 entering class, excluding MSSE and interpreting programs, is from minority groups. The percentage of students from minority groups in the total student body is 41%, more than triple what it was 20 years ago.
- In summer 2020, NTID's American Sign Language and Interpreting Education department for the first time offered their New Signers Program as a one-credit course that counts toward a student's degree. The department also offered four sections of Introduction to ASL and Deaf Culture as part of RIT's new summer online First Class Academy, an incentive for incoming RIT freshmen to attend RIT this fall semester in the midst of the COVID-19 pandemic.
- In fall 2020, NTID accepted its first cohort of students into the new AAS program in Business Administration. This program expands business opportunities for students beyond the current accounting and administrative support technology degrees.
- RIT set new records for sponsored research funding in its FY 2020 (July 1, 2019-June 30, 2020). Within this timeframe, RIT received 382 new awards totaling $82 million. This total includes a $1 million award from NIH to NTID researchers to examine the effects of auditory development, cognitive function and language outcomes in a large group of young deaf adults. The results of this study will provide much needed and timely answers regarding the possible benefits of early cochlear implantation and early intervention with sign language that parents and policy makers seek as they determine how best to intervene with the next generation of deaf infants who are cochlear implant recipients or candidates.

Executive Summary

New Registrations	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Fall Admissions (Deaf and Hard-of-Hearing Students Only)*					
Applications	771	638	533	575	632
Acceptances	432	435	396	418	458
Registrations	305	289	259	247	262
Other New Registrations					
AAS/BS ASL-English Interpretation	46	42	50	51	48
MS in Secondary Education	17	5	7	8	21
Total New Registrations	**368**	**336**	**316**	**306**	**331**
Enrollment (Deaf and Hard-of-Hearing Students Only)					
Career Exploration Studies (CES)	44	38	25	31	25
Sub-Baccalaureate Programs					
Career-Focused Programs	316	265	242	218	201
Associate+Bachelor's/Pre-Baccalaureate	211	202	182	171	173
Subtotal CES and Sub-Baccalaureate	**571**	**505**	**449**	**420**	**399**
Baccalaureate Programs at RIT	507	520	506	470	421
Graduate Programs at RIT	44	56	50	53	66
Subtotal Baccalaureate and Graduate at RIT	**551**	**576**	**556**	**523**	**487**
Subtotal Deaf and Hard-of-Hearing Students Only	**1,122**	**1,081**	**1,005**	**943**	**886**
Other Enrollments					
ASL-English Interpretation	140	147	148	155	170
MS in Health Care Interpretation	8	15	12	9	11
MS in Secondary Education	30	19	17	22	34
Subtotal Other Enrollments	**178**	**181**	**177**	**186**	**215**
Total Deaf and Hard of Hearing Enrollment (Includes MSSE)	**1,136**	**1,090**	**1,014**	**953**	**908**
Total Enrollment	**1,300**	**1,262**	**1,182**	**1,129**	**1,101**

---

*   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.

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Withdrawn (All Students)	16%	17%	17%	17%	15%
Graduates					
Total Degrees Granted	340	301	302	292	319
Degree Level					
Certificate	2	3	3	1	1
Associate (AOS)	33	37	41	22	28
Associate (AS/AAS)	78	85	72	78	82
Associate (Interpreting)	1	0	0	0	0
Bachelor's (Interpreting)	40	24	29	35	23
Bachelor's	143	123	120	126	152
Master's	23	18	24	17	15
Master's (MS Health Care Interpretation)	N/A	N/A	N/A	8	8
Master's (MSSE)	20	11	13	5	10
Post-Graduation Employment					
Post-Graduation Employment	122	130	134	116	N/A*
Post-Graduation Employment Rate	94%	96%	95%	95%	N/A*
By Sector of the Economy					
Business and Industry	70%	77%	65%	77%	N/A*
Education/Non-Profit	20%	17%	15%	16%	N/A*
Government	10%	6%	20%	7%	N/A*
Cooperative Work Experiences	271	313	270	232	181
Access/Support Services					
Notetaking Hours	61,924	62,015	52,945	47,181	40,475
Tutoring Hours	14,438	12,881	11,405	8,369	12,025
Interpreting Hours	149,046	152,630	136,036	145,284	118,240
Real-Time Captioning Hours	24,335	25,952	23,600	25,978	21,856

---

* Post-graduation employment numbers reflect status as of one year following graduation; employment numbers for September 1, 2019 through August 31, 2020 graduates will be reported next year.

Outreach (Number of External Participants)	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Computer Science Week	N/A	N/A	N/A	26	N/A
Create Your Future	N/A	N/A	N/A	23	N/A
Digital Arts, Film and Animation	28	20	34	18	1
Discovering Agriculture through STEM	N/A	N/A	23	N/A	N/A
Droids and Drones	18	27	30	N/A	N/A
Explore Your Future	199	203	179	212	136
Health Care Careers Exploration Program	14	23	20	21	N/A
Health Science Week	N/A	N/A	N/A	20	N/A
Math Competition	119	144	149	168	N/A
NTID Center on Employment	754	498	290	266	163
Project Fast Forward	56	168	118	158	306
SpiRIT Writing Contest	31	33	26	19	16
Steps to Success	8	18	17	19	N/A
TechGirlz/TechBoyz Camp	47	60	49	51	N/A

Financial Aid (Domestic Students)					
Grant-in-Aid	$1,035,396	$1,410,243	$1,344,300	$1,588,692	$1,660,043
Vocational Rehabilitation	10,504,372	9,998,521	9,780,492	8,951,676	8,409,863
Pell Grants	2,611,999	2,399,441	2,619,065	2,492,605	2,353,799
State Grants	453,851	435,230	488,173	483,487	511,115
Federal Loans	3,915,733	3,916,779	3,566,895	3,246,844	2,936,663
Scholarships and Other	4,221,658	4,233,220	4,797,273	4,898,701	4,936,906
Total Financial Aid	**$22,743,009**	**$22,384,434**	**$22,596,198**	**$21,630,327**	**$20,808,389**
Average Aid per Domestic Student (Excluding Loans)*	**$13,783**	**$14,715**	**$15,688**	**$17,022**	**$16,232**

---

* Total financial aid, less loans, divided by domestic student enrollment.

Domestic Student Rates*	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Tuition	$15,140	$15,730	$16,518	$17,162	$17,814
Room	7,162	7,376	7,596	7,902	8,140
Board	5,338	5,290	5,662	5,800	6,000
Fees	544	562	584	646	676
Total	**$28,184**	**$28,958**	**$30,360**	**$31,510**	**$32,630**
Fundraising Activity					
Cash to Endowment and Restricted Funds	$683,466	$872,054	$1,337,139	$907,640	**
Equipment and Software	$20,530	$40,717	$100,728	$29,643	**
Federal Funds Matched***	$116,373	$86,322	$362,598	$353,855	**

RIT/NTID partnered with SignVote and RIT's Center for Leadership and Civic Engagement to encourage voter registration and participation in the 2020 Elections. Presidential and vice presidential debates were broadcast with live ASL interpretation and captioning, and several NTID faculty participated in virtual panel discussions and presentations targeted to deaf voters.

---

*   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.

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 Inclusion 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 Inclusion 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 Inclusion 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 Inclusion 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.]

(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 one invention was made during the year covered by this Annual Report.

Intellectual Property 2019-013-02 – Non-provisional Patent filed with U.S.P.T.O. for "Method and System to Enhance Telecommunication Relay System for People with Disability." Application date: February 14, 2020. IP Inventors named: Brian Trager '00, '05, Gary Behm '78, '81, Shareef Ali '14, '17, Mark Jeremy '95, '07, '17, Byron Behm.

RIT/NTID students Taylor Harris, left, from Rochester, New York, and Jayha Smith, right, from West Henrietta, New York, won first place in NTID's Next Big Idea entrepreneurship competition for MoWay, a solution to help reduce collisions on walkways and in road traffic. Harris and Smith are both ASLIE majors. Missing from the photo is team member Emma Foster, an interior design major from Bangor, Maine.

Performance Indicators

Performance indicators, required by the Government Performance and Results Act, measure NTID's performance related to enrollment, persistence, graduation and employment.

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 in Secondary Education of Students who are Deaf or Hard of Hearing (MSSE) program; and
- Students in the Master of Science in Health Care Interpretation (MSHCI) program.

Fiscal Year	Total Enrollment
2012	1,547
2013	1,529
2014	1,432
2015	1,387
2016	1,413
2017	1,300
2018	1,262
2019	1,182
2020	1,129
2021	1,101

Performance Indicators (continued)

Measure 1.1 of 3: The number of NTID-supported deaf and hard-of-hearing undergraduates (desired direction: increase)			
Fiscal Year	Target	Number	Status
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
2018	1,200	1,025	Target Not Met
2019	1,045	955	Target Not Met
2020	1,045	890	Target Not Met
2021	1,045	820	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. For FY 2019, the target was decreased back to the original 1,045 to better reflect the recent enrollment contraction.

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 NTID and in baccalaureate programs at RIT.

Fiscal Year	Sub-Baccalaureate	Baccalaureate	Total
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
2018	505	520	1,025
2019	449	506	955
2020	420	470	890
2021	399	421	820

As seen in the above table, NTID experienced a decrease in the undergraduate enrollment of students who are deaf and hard of hearing from 890 students during the 2019-2020 (FY 2020) academic year to 820 students in the 2020-2021 (FY 2021) 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**
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
2018	140	147	Target Surpassed
2019	140	148	Target Surpassed
2020	140	155	Target Surpassed
2021	140	170	Target Surpassed

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 2017, the target was changed back to an overall enrollment goal of 140 students.

Explanation: The number of students currently enrolled in the program in FY 2021 (2020-2021 academic year) is 170. This measure previously included AAS degree students in ASL-English Interpretation, a now-closed degree program track. Between FY 2009 and FY 2016, just four AAS degree students were enrolled as they finished their degree requirements.

Performance Indicators (continued)

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
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
2018	95	90	Made Progress From Prior Year
2019	95	79	Target Not Met
2020	95	84	Made Progress From Prior Year
2021	95	111	Target Surpassed

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 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.

Explanation. In FY 2021 (2020-2021 academic year), NTID had a total of 34 students in the MSSE program and 66 deaf and hard-of-hearing students in other RIT graduate programs. Enrollment in NTID's MSSE program has declined more than 50 percent over the last five fiscal years, largely as a result of elevated admissions requirements in response to graduates' certification rate. Additionally, previous funding for scholarships has declined, making NTID unable to financially support the number of students as in prior years. FY 2017 marked the first year where students enrolled in NTID's Master of Science in Health Care Interpretation were included. FY 2020 enrollment in this area is 11 students. Total enrollment for this measure is currently 111.

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 2020 data will be reported in April 2021.

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**
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
2016	70	69.5	Target Not Met
2017	70	71.3	Target Surpassed
2018	70	63.9	Target Not Met
2019	70	65.1	Made Progress From Prior Year

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In April 2020, NTID reported to the Department the FY 2019 persistence rate of its sub-baccalaureate students, who returned from the 2018-2019 academic year to their second year in the 2019-2020 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 65.1%. Currently, there are no sub-baccalaureate students enrolled in the ASL-English Interpretation program.

NTID will report to the Department the FY 2020 persistence rate in April 2021, with a sub-set of disaggregated data on the persistence rates of sub-baccalaureate students who are deaf and hard of hearing 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%. In comparison, IPEDS data indicate that two-year public and two-year non-profit colleges have an average persistence rate of 62.3%.

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
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
2016	86	83.0	Target Not Met
2017	87	88.8	Target Surpassed
2018	88	80.7	Target Not Met
2019	88	93.3	Target Surpassed

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In April 2020, NTID reported to the Department the FY 2019 persistence rate of its baccalaureate students, including ASL-English Interpretation students, who returned from the 2018-2019 academic year to their second year in the 2019-2020 academic year, along with a sub-set of disaggregated data on the persistence rates of baccalaureate students who are deaf and hard of hearing and ASL-English Interpretation students. Prior to FY 2008, this measure did not include ASL-English Interpretation students.

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

	All students	Deaf students	ASL-English Interpretation students
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%
FY 2016	83.0%	81.3%	88.0%
FY 2017	88.8%	85.0%	100.0%
FY 2018	80.7%	81.5%	77.8%
FY 2019	93.3%	90.5%	100.0%

NTID will report to the Department the FY 2020 persistence rate of its baccalaureate students in April 2021, with a sub-set of disaggregated data on the persistence rates of baccalaureate students who are deaf and hard of hearing and ASL-English Interpretation students.

Target Context: The target for the persistence rate of NTID's baccalaureate students is 88%. In comparison, IPEDS data indicate that four-year public and private colleges have an average persistence rate of 80.8%.

Performance Indicators (continued)

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**
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
2016	38	38.8	Target Surpassed
2017	39	36.9	Target Not Met
2018	40	37.7	Made Progress From Prior Year
2019	41	43.8	Target Surpassed

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In April 2020, NTID reported to the Department the FY 2019 percentage of its sub-baccalaureate students (those who were initially enrolled in the 2013-2014 academic year), including ASL-English Interpretation students, who graduated within 150% 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 hard of hearing 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 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
FY 2016	39.8%	39.8%	N/A
FY 2017	36.9%	36.9%	N/A
FY 2018	37.7%	37.7%	N/A
FY 2019	43.8%	43.8%	N/A

Performance Indicators (continued)

NTID will report to the Department the FY 2020 graduation rate of its sub-baccalaureate students in April 2021, 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 41%. An IPEDS analysis of public and private non-profit two-year institutions indicated an average graduation rate of 30.3% for full-time, first-time degree-seeking students within 150% of program-based length of time. Based on the comparison with IPEDS data, the target has increased from 35% in 2013 to 41% in 2019, at an increase of 1% 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.

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**
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
2016	65	74.5	Target Surpassed
2017	65	65.6	Target Surpassed
2018	65	79.6	Target Surpassed
2019	65	80.6	Target Surpassed

Source: Rochester Institute of Technology, Registrar Office records

Frequency of Data Collection: Annual

Data Quality: In April 2020, NTID reported to the Department the FY 2019 percentage of its baccalaureate students (those who were initially enrolled in the 2013-2014 academic year), including ASL-English Interpretation students, who graduated within 150% 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 hard of hearing and ASL-English Interpretation students. Prior to FY 2008, this measure did not include ASL-English Interpretation students.

Performance Indicators (continued)

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%
FY 2016	74.5%	73.5%	84.2%
FY 2017	65.6%	56.5%	88.9%
FY 2018	79.6%	77.3%	87.0%
FY 2019	80.6%	78.7%	87.0%

NTID will report to the Department the FY 2020 graduation rate of its baccalaureate students in April 2021, with a sub-set of disaggregated data on the graduation rates of baccalaureate students who are deaf and hard of hearing and ASL-English Interpretation students.

Target Context: The target for the graduation rate of NTID's baccalaureate students in 2019 is 65%. An IPEDS analysis of institutions of higher education show that four-year public and private colleges have an average graduation rate of 59.8%. Based on the comparison with IPEDS data, the target has increased from 60% in 2011 to 65% for 2016-2019.

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 comparable with what is being submitted to IPEDS by other institutions.

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. All graduates receive an 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 2019, a total of 244 deaf and hard-of-hearing students graduated from NTID. Valid data existed one year later on 224 graduates. Of these 224 graduates, 116 students were employed (52%), 92 students were in higher education or training (41%) and 16 students were not employed or in higher education or training (7%). Of the 16 students not employed or in higher education or training, six were actively looking for work.

Category of Graduate	Count
Employed	116
Unemployed (Seeking Employment)	6
Not Seeking Employment	10
Education (Within RIT)	61
Education (Outside RIT)	31
Unknown	20
Total	244

Performance Indicators (continued)

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**
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
2016	50	49	Target Not Met
2017	50	53	Target Surpassed
2018	50	57	Target Surpassed
2019	50	52	Target Surpassed

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

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%. 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% 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% 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%, the following percentages of students employed who have chosen to pursue employment:

Graduation Year	Percentage
2010	90
2011	91
2012	93
2013	94
2014	94
2015	94
2016	94
2017	96
2018	95
2019	95

Performance Indicators (continued)

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**
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
2016	45	42	Made Progress From Prior Year
2017	45	42	Target Not Met
2018	45	35	Target Not Met
2019	45	41	Made Progress From Prior Year

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

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%. 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% 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% 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.

Performance Indicators (continued)

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)			
Graduation Year	**Target**	**Rate**	**Status**
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
2016	5	9	Made Progress From Prior Year
2017	5	5	Target Met
2018	5	8	Target Not Met
2019	5	7	Made Progress From Prior Year

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%. 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% 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% of the alumni being tracked by NTID.

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.

Performance Indicators (continued)

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**
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
2017	222,827	221,200	Target Surpassed
2018	222,827	223,600	Target Not Met
2019	222,827	234,500	Target Not Met
2020	222,827	218,600	Target Surpassed

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

Frequency of Data Collection: Annual

Data Quality: The FY 2020 data on the federal cost per graduate, as reported by NTID, is an average of the cost per graduate from FY 2015 to FY 2020. The federal cost per graduate includes graduates who complete programs of study at RIT/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
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
2017	267,737	272,800	Target Not Met
2018	267,737	276,400	Target Not Met
2019	267,737	288,400	Target Not Met
2020	267,737	268,300	Made Progress From Prior Year

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

Frequency of Data Collection: Annual

Data Quality: The FY 2020 data on the total educational cost per graduate, as reported by NTID, is an average of the cost per graduate from FY 2015 to FY 2020. The total educational cost per graduate includes graduates who complete programs of study at RIT/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.
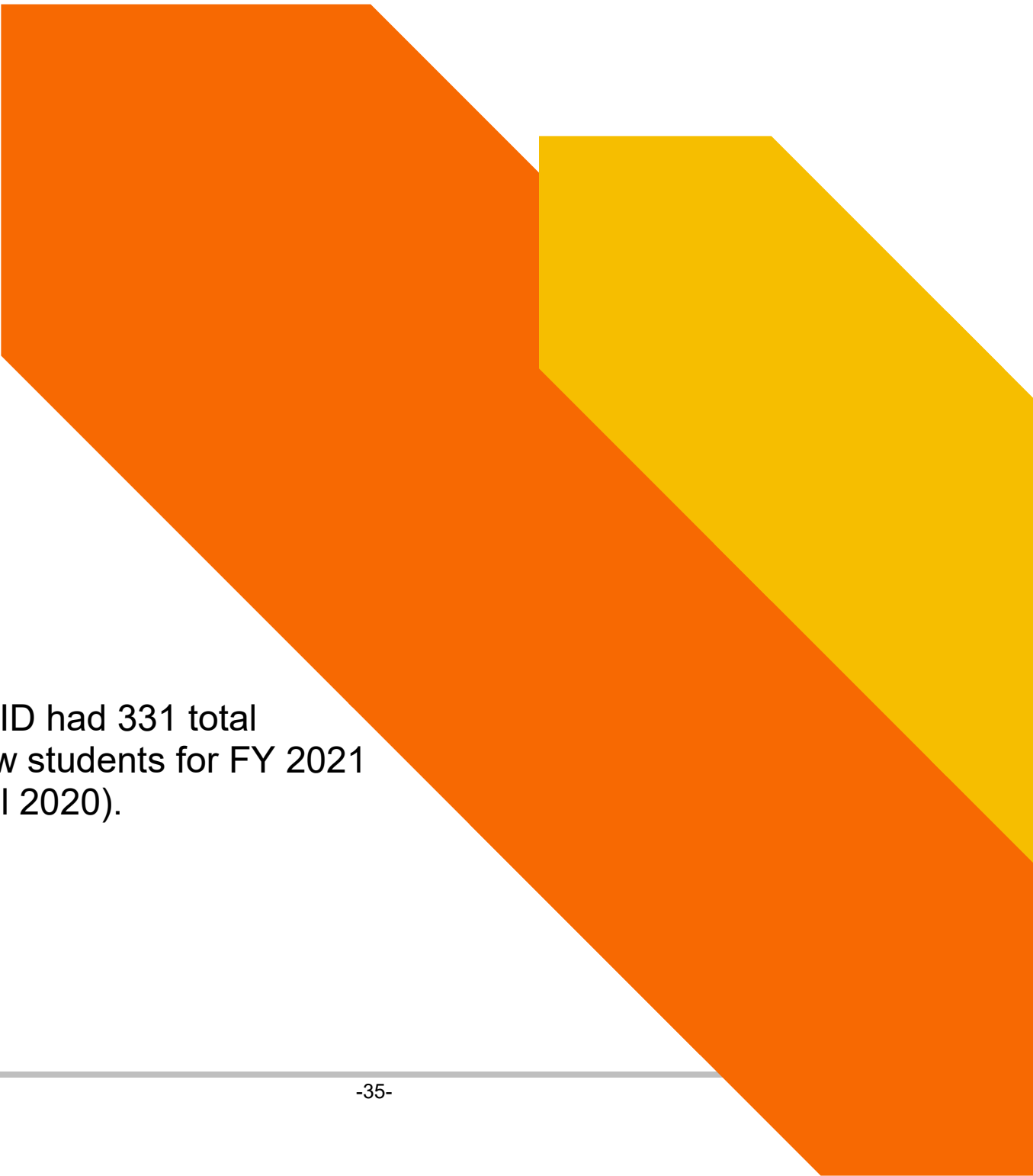
Strategic Decisions 2020

In Fiscal Year 2020 (Academic Year 2019-2020) NTID was in the process of reviewing and finalizing its next strategic plan to follow *Strategic Decisions 2020 (SD 2020)* when the coronavirus pandemic hit. As a result of the uncertainty introduced by the pandemic, this next strategic plan will be shorter-term, at five years, with the goal of aligning with the timeline and objectives of RIT's overarching strategic plan, *Greatness Through Difference* (https://www.rit.edu/strategicplan/). *Greatness Through Difference* was developed with NTID involvement and contains some objectives related to NTID, but is not intended to be the institute's only governing strategic plan. NTID's 2020-2025 strategic planning efforts have resumed this fall semester, soliciting input from the NTID National Advisory Group, RIT and the Department of Education on the new plan prior to finalization in early 2021. *SD 2020* will remain in place until the new plan is adopted.
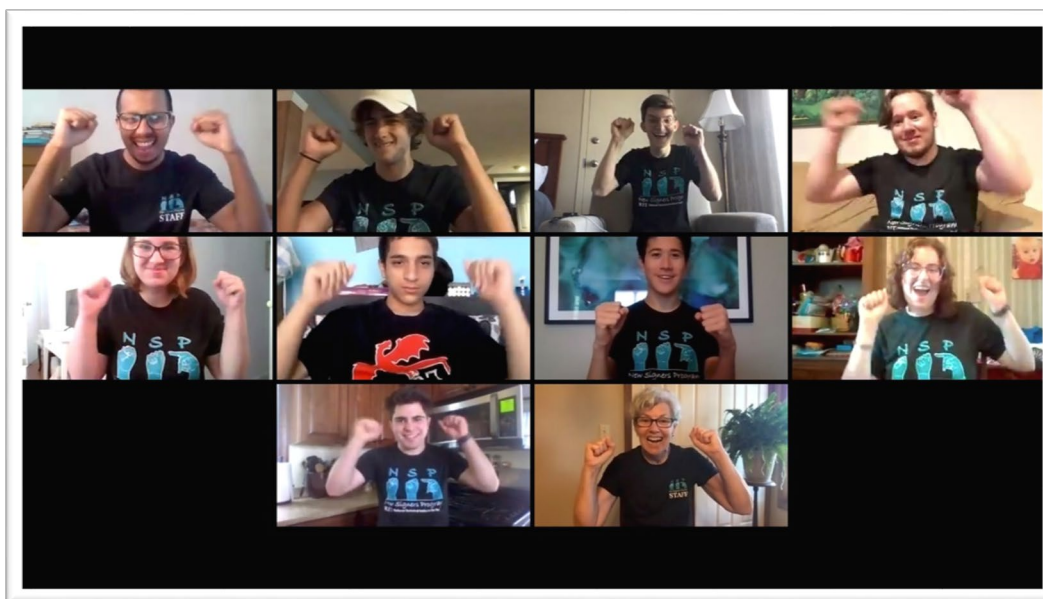
Incoming NTID students with minimal or no ASL skills may elect to participate in the New Signers Program (NSP), a Strategic Decisions 2020 initiative that gives new students an ASL-immersion experience before fall orientation begins. For the first time, in fall 2020, NSP was offered as a one-credit course counting toward a student's degree.

Admissions and Enrollment

NTID had 331 total new students for FY 2021 (fall 2020).

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 430 recruitment visits during the FY 2020 admissions cycle. Visits this year included 367 mainstream schools, 54 schools for the deaf and nine colleges. This included 59 visits in New York, 75 in the Northeast, 84 in the Midwest, 61 in the Southwest, 89 in the Southeast and 62 on the West Coast.

The number of new students entering NTID in fall 2020 was 331. The total included 235 deaf and hard-of-hearing freshmen and transfers, 39 deaf and hard-of-hearing graduate students (12 in the Master of Science program in Secondary Education of Students who are Deaf or Hard of Hearing [MSSE] and 27 in other RIT colleges) and 57 hearing students (48 in the ASL-English Interpretation program and nine in the MSSE program).

Total enrollment was 1,101 compared to 1,129 for last year. The breakdown of the 1,101 students is as follows:

	Total
Undergraduate Programs	
Career Exploration Studies	25
Career-Focused Associate Programs	201
Associate+Bachelor's Programs and Pre-Baccalaureate	173
Baccalaureate (ASL-English Interpretation)	170
Baccalaureate/Master's Programs in Other RIT Colleges	421
Subtotal NTID Undergraduate Programs	**990**
Graduate Programs at RIT	66
MSSE	34
MS Health Care Interpretation	11
Total Enrolled Students	**1,101**

NTID's student population remains strong in both ethnic and geographic diversity. Minority students represent 48% of this year's fall 2020 entering class, compared to 41% of the total NTID student body. Minority students have represented approximately 35 to 40% of the entering student population over the past five years. Additionally, minority students have represented approximately 33 to 41% of the entire student population over the past five years (for more information see the Diversity and Inclusion section). Entering domestic students come from all over the country, with 16% from the West, 25% from the South, 12% from the Midwest and 47% from the Northeast.

In addition, NTID enrolled six new international students. The total number of international students is 31, or 2.8% of the entire student population. International students have represented approximately 3 to 4% of the entire student population in the past five years.

In summary, NTID registered 331 new students and is serving a total of 1,101 students.

Comparative Admissions Data

Applications, excluding those to the ASL-English Interpretation or MSSE programs, increased from last year.* The acceptance rate was 72.4% of applications. Registrations were 262, achieving a yield rate of 57.2%.

	FY 2017	FY 2018		FY 2019**	FY 2020	FY 2021
Applicants	**771**	**638**		**533**	**575**	**632**
% Increase or Decrease from Previous Year	-10.3%	-17.3%			+7.9%	+9.9%
Accepted Applicants	**432**	**435**		**396**	**418**	**458**
% Increase or Decrease from Previous Year	-11.4%	+0.7%			+5.6%	+9.6%
Acceptance Rate (% of Total Applicants)	56.0%	68.2%		74.3%	72.7%	72.4%
Registrations	**305**	**289**		**259**	**247**	**262**
Yield Rate (Registrations as a % of Accepted Applicants)	70.6%	66.4%		65.4%	59.0%	57.2%

---

* 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.

** Due to data definition changes by RIT Enrollment Management, the application count has been adjusted to reflect only fully submitted applications. Percentage increases and decreases will be reported in future years.

Summary Vestibule Program

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 149 SVP registrants for summer 2020, and 148 continued on to register for fall semester 2020 (FY 2021).

	Number of Students*				
	FY 2017	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
SVP Students Accepted	307	253	259	261	269
SVP Students Registered at Start of Program	203	174	170	151	149
SVP Students Completing Program	203	172	168	151	148
SVP Students Registered in Academic Programs for Fall Term	200	172	168	147	145

Sodiq Alaraba, a civil engineering technology major from Nigeria, disinfects moving equipment and welcomes incoming SVP students arriving on campus.

---

* 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 (170), deaf, hard-of-hearing or hearing students enrolled in the Master of Science program in Secondary Education (34), or students enrolled in the Master of Science in Health Care Interpretation (11). 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 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%	*	*	*	1,002	-6.53%	-10.70%	309	+14.44%	174	-14.20%
FY 18:	Oct. 17-Sep.18	1,081	-3.65%	*	*	*	944	-5.79%	-12.67%	271	-12.30%	170	-2.30%
FY 19:	Oct. 18-Sep. 19	1,005	-7.03%	*	*	*	862	-8.69%	-14.23%	247	-8.86%	151	-11.20%
FY 20:	Oct. 19-Sep. 20	943	-6.17%	*	*	*	812	-5.81%	-13.9%	285	+13.33%	148	-1.99%
FY 21:	Oct. 20-Sep. 21	886	-6.05%	*	*	*							

NOTES: Column A = Number of student enrollments for the period covered33
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% of NTID-supported students are
registered full time. At RIT, full-time status is
defined as taking at least 12 credit hours
in a semester.

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021		
						Number	
					Percent	**Full-Time**	**Total**
Career Exploration	100%	100%	100%	100%	100%	25	25
Career-Focused and Associate+Bachelor's Degrees	99%	94%	96%	94%	96%	345	358
Pre-Baccalaureate	100%	100%	100%	100%	94%	15	16
Baccalaureate and Graduate	91%	93%	95%	93%	93%	451	487
ASL-English Interpretation	91%	97%	97%	97%	96%	164	170
Master of Science in Health Care Interpretation	50%	33%	0%	22%	9%	1	11
Master of Science in Secondary Education (MSSE)	93%	95%	100%	91%	100%	34	34
Overall	**94%**	**94%**	**95%**	**94%**	**94%**	**1,035**	**1,101**

International Student Recruitment

This year, applications from international students numbered 39 and, of those, nine were accepted and six registered. Canadian students used to represent 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 prevents 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 2017	FY 2018	FY 2019	FY 2020	FY 2021
Applicant Continent of Origin					
Africa	21	16	16	16	19
Asia	21	11	15	24	13
Australia/Oceania	0	1	0	0	0
Europe	1	2	4	2	4
North America	23	21	14	13	2
South America	0	0	1	0	1
Unknown	0	0	0	0	0
Total Applicants	**66**	**51**	**50**	**55**	**39**
Accepted Applicants	**18**	**13**	**19**	**22**	**9**
Acceptance Rate (Percent of Total Applicants)	27%	25%	38%	40%	23%
New Registrations	**11**	**11**	**15**	**4**	**6**
Yield Rate (New Registrations as a Percent of Accepted Applicants)	61%	85%	79%	18%	67%
Returning International Students	**28**	**32**	**34**	**39**	**25**
Total Enrollment (Returning International Students plus New Registrations)	**39**	**43**	**49**	**43**	**31**

---

* 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.

Demographic Characteristics of All Entering Students

The demographic profile of entering students in
FY 2021 remains consistent with the previous
year's profile.*

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Characteristics of Entering Students					
Gender					
Male	54%	63%	56%	51%	52%
Female	46%	37%	44%	49%	48%
Mean Age at Entry	21	21	20	20	20
Origin of Entering Students					
United States by Region: 100% of U.S. students distributed across four regions					
West	16%	12%	17%	16%	16%
Midwest	23%	24%	13%	12%	21%
South	24%	22%	26%	25%	23%
Northeast	37%	42%	44%	47%	40%
Distribution of United States and International Students					
United States	97%	96%	94%	98%	98%
International	3%	4%	6%	2%	2%
School Background of Entering Students					
First Time in College	79%	76%	81%	78%	76%
Transfer from Other Colleges	13%	12%	12%	12%	8%
Previously Enrolled at RIT	4%	5%	3%	4%	6%
Graduate Students	4%	7%	4%	6%	10%

---

* 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 2021*		
	International	**U.S.**	**Overall**
Demographics			
Gender			
Male	79%	54%	55%
Female	21%	46%	45%
Entry Scores			
ACT Composite Score	17.7	20.4	20.4
Program Area			
Career Exploration	4%	3%	3%
Career-Focused Associate Degrees	17%	25%	25%
Associate+Bachelor's Degrees	25%	21%	21%
Other Colleges of RIT Baccalaureate	54%	51%	51%
FY 2021 Status of Students Enrolled FY 2020			
Still Registered	77%	66%	66%
Withdrawn	13%	19%	15%
Graduated	10%	15%	19%

In November 2019, NTID and Beijing Union University in China signed a Memorandum of Understanding to establish student and faculty exchange programs and short- and long-term teaching, learning, research, innovation, discovery and global outreach missions.

---

* 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.

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 2017	FY 2018	FY 2019	FY 2020	FY 2021
ACT English	17.1	16.3	15.6	16.2	16.6
ACT Reading	20.1	18.8	18.9	19.8	20.0
ACT Mathematics	19.6	19.2	18.6	18.8	18.6
ACT Science Reasoning	20.6	19.8	19.5	20.0	20.1
ACT Composite	19.7	19.2	19.6	19.9	20.3

Students chat outside NTID's coffee bar, The Grind, in the CSD Student Development Center.

---

* 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 27.3, and represent 32.8% of NTID's entering class of 2020. The mean ACT composite score for students entering associate+bachelor's programs is 18.5, and represents 28.9% of NTID's entering class. The mean ACT composite score for students entering career-focused associate programs is 15.3, and represents 28.1% of NTID's entering class. Lastly, the mean ACT composite score for students entering career-exploration programs is 14.2,

and represents 10.2% of NTID's entering class. The average ACT composite score of 20.3 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.

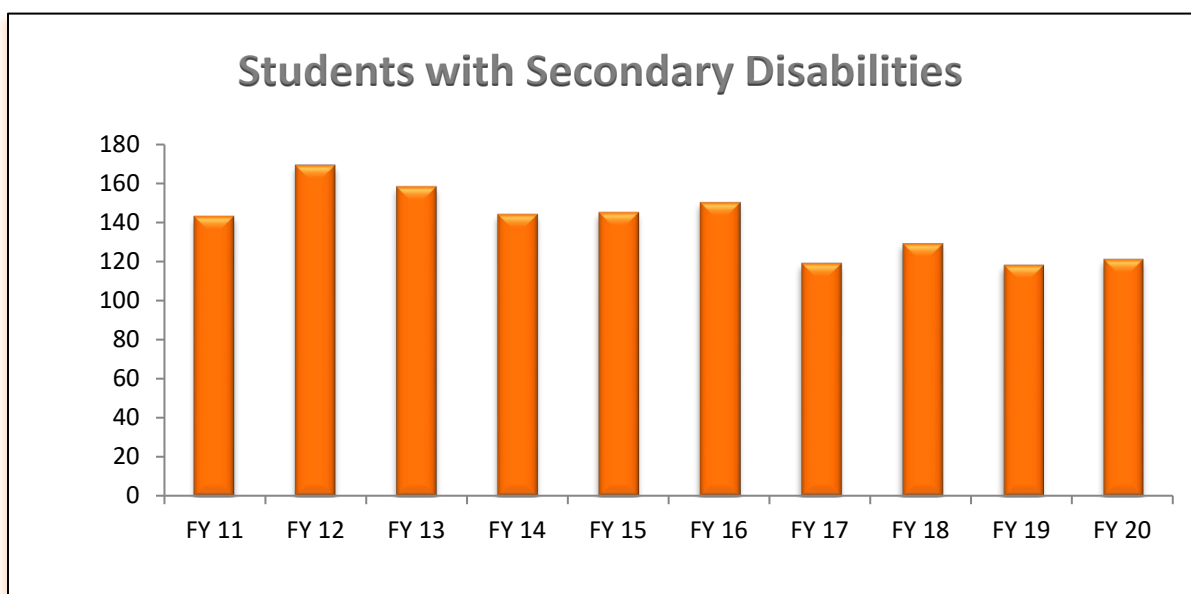| Degree Level	Percentage of Deaf and Hard-of-Hearing Students by Degree Level	ACT Composite Mean
Bachelor's in Other RIT Colleges	32.8%	27.3
NTID		
Associate+Bachelor's Programs	28.9%	18.5
Career-Focused Associate Programs	28.1%	15.3
Career Exploration	10.2%	14.2
Total*	**100%**	
Average Score of All Entering Students*		**20.3**

---

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

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 2021 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**
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	1,167	150	13%
2017	1,078	119	11%
2018	1,025	129	13%
2019	954	118	12%
2020	883	121	14%

Students with Secondary Disabilities

---

* This figure includes all undergraduate deaf and hard-of-hearing students.
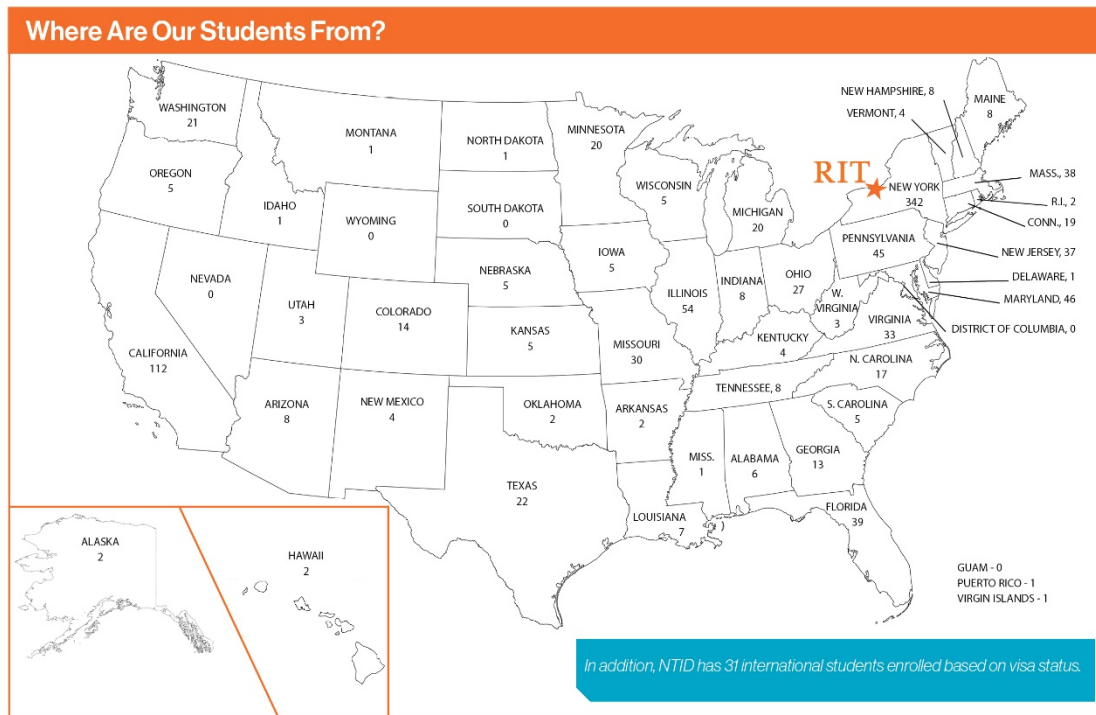
Origin of Students

NTID students enrolled as of fall 2020 come from 47 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 2021
Alabama	6
Alaska	2
Arizona	8
Arkansas	2
California	112
Colorado	14
Connecticut	19
Delaware	1
District of Columbia	0
Florida	39
Georgia	13
Guam	0
Hawaii	2
Idaho	1
Illinois	54
Indiana	8
Iowa	5
Kansas	5
Kentucky	4
Louisiana	7
Maine	8
Maryland	46
Massachusetts	38
Michigan	20
Minnesota	20
Mississippi	1
Missouri	30
Montana	1
Nebraska	5
Nevada	0
New Hampshire	8
New Jersey	37
New Mexico	4
New York	342
North Carolina	17
North Dakota	1
Ohio	27
Oklahoma	2
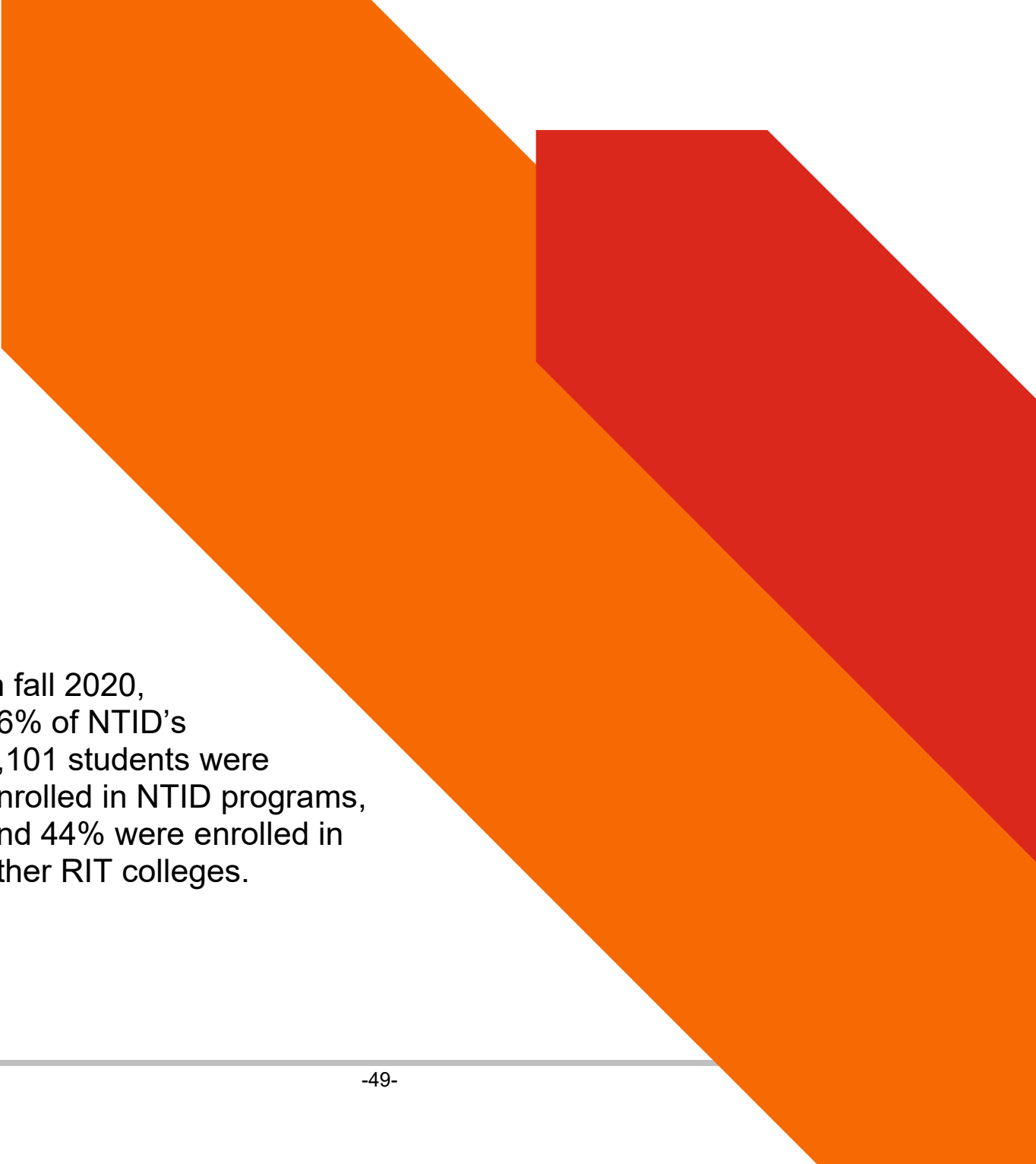
Home State or U.S. Territory (Domestic Students)	Number in Student Body FY 2021
Oregon	5
Pennsylvania	45
Puerto Rico	1
Rhode Island	2
South Carolina	5
South Dakota	0
Tennessee	8
Texas	22
Utah	3
Vermont	4
Virgin Islands	1
Virginia	33
Washington	21
West Virginia	3
Wisconsin	5
Wyoming	0
Other*	3
Subtotal	**1,070**
International	**31**
Total	**1,101**

Where Are Our Students From?

WASHINGTON 21
MONTANA 1
NORTH DAKOTA 1
MINNESOTA 20
NEW HAMPSHIRE, 8
MAINE 8
VERMONT, 4
OREGON 5
IDAHO 1
WYOMING 0
SOUTH DAKOTA 0
WISCONSIN 5
MICHIGAN 20
RIT
NEW YORK 342
MASS., 38
R.I., 2
CONN., 19
NEVADA 0
UTAH 3
COLORADO 14
NEBRASKA 5
IOWA 5
ILLINOIS 54
INDIANA 8
OHIO 27
PENNSYLVANIA 45
NEW JERSEY, 37
DELAWARE, 1
MARYLAND, 46
W. VIRGINIA 3
VIRGINIA 33
DISTRICT OF COLUMBIA, 0
CALIFORNIA 112
KANSAS 5
MISSOURI 30
KENTUCKY 4
N. CAROLINA 17
ARIZONA 8
NEW MEXICO 4
OKLAHOMA 2
ARKANSAS 2
TENNESSEE, 8
S. CAROLINA 5
MISS. 1
ALABAMA 6
GEORGIA 13
TEXAS 22
LOUISIANA 7
FLORIDA 39
ALASKA 2
HAWAII 2
GUAM - 0
PUERTO RICO - 1
VIRGIN ISLANDS - 1

In addition, NTID has 31 international students enrolled based on visa status.

---

* U.S. citizens living in other countries.

Academic Programs

In fall 2020,
56% of NTID's
1,101 students were
enrolled in NTID programs,
and 44% were enrolled in
other RIT colleges.

Academic Program Highlights

Work continued throughout AY 2019-2020 to develop the new academic programs that were green-lighted during the previous academic year:

- Applied Internet of Things — BS
- Community Development and Inclusive Leadership — BS
- Geospatial Technology — AAS
- Global Perspectives and Practices in Deaf Education — MS

The proposal for the BS in Community Development and Inclusive Leadership, including 24 new courses and six separate concentrations, was approved at the college and university levels and is currently under review by the New York State Department of Education (NYSED). The BS in Applied Internet of Things, including 19 new courses, has been approved at the college level and will undergo university-level review during the current academic year. The development of the degree proposals for the AAS in Geospatial Technology and the MS in Global Perspectives and Practices in Deaf Education continues. The concept papers for several additional associate degree programs, AAS in Applied Engineering Technology and AAS in Precision Manufacturing Technology, were approved by the NTID Curriculum Committee. Development of the full proposals for these AAS programs is in progress. The full proposal for the Ph.D. in Cognitive Science, a program to be housed in RIT's College of Liberal Arts but with significant participation by NTID faculty, is undergoing college- and university-level review this year. Finally, NYSED review of NTID's application to offer the AAS in Business Administration as the college's first fully online degree program is underway.

These programs represent new directions for NTID and support the ongoing implementation of *Strategic Decisions 2020* (*SD 2020*). This plan calls for the exploration of new majors for career-focused associate and associate+bachelor's degrees as well as baccalaureate and master's degrees. Both of the proposed baccalaureate programs will have articulation agreements with NTID associate degree programs to facilitate a smooth transition between the degrees for AS/AAS graduates. Further, the BS in Community Development and Inclusive Leadership was developed with pathways to RIT master's degree programs for interested students via the concentrations in specialized disciplines.

Strategic Decisions 2020 Enrollment Targets

The enrollment targets set in *Strategic Decisions 2020* were: 35% career-focused programs, 20% associate+bachelor's degree programs and 45% baccalaureate/master's programs. At the beginning of AY 2020-2021 the enrollment percentages for deaf and hard-of-hearing undergraduates were 26% career-focused, 20% associate+bachelor's degree programs and 54% 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, 149 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 2019-2020, CES served 31 students in the fall and 17 students in the spring; all students served who applied to a major were accepted 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 Communications. The programs within these clusters are

Academic Program Highlights (continued)

designed to lead directly to employment in high-demand technical jobs. NTID accepted its first cohort of students into the new AAS program in Business Administration, which was approved by New York State Education Department (NYSED). This program expands business opportunities for students beyond the current accounting and administrative support technology degrees. An online version of this degree program is now pending NYSED review and approval, with a target date of enrollment during AY 2021-2022.

At the beginning of AY 2020-2021, there were 226 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 maintain steady enrollment in the AOS, AAS and AS Business programs. Seven students completed cooperative work experiences in AY 2019-2020. The AAS in Business Administration, which accepted its first cohort this year, as previously mentioned, is housed within this department.

The Department of Engineering Studies' (DES) career-focused programs, Architecture and Civil Drafting Technology (ACDT, formerly Computer-Aided Drafting Technology) and Precision Manufacturing Technology (PMT, formerly Computer-Integrated Machining Technology), are in their first cohort. The current enrollment of both programs, including those who matriculated in AY 2019-2020 and AY 2020-2021, is 25 (ACDT) and 20 (PMT). As a result of strategic planning changes in the department, the programs were reviewed by industrial advisory boards to increase strengths in all areas.

In AY 2019-2020, the Department of Information and Computing Studies saw the second cohort of the Mobile Application Development program apply and be accepted into the Web and Mobile Computing baccalaureate program at RIT. During the fall of 2019, they worked on a capstone project with an external client that involved developing an app that worked with Internet of Things devices, a cloud service, and mobile phones to monitor and automatically adjust environmental conditions (humidity and temperature) in a greenhouse.

The third cohort of Mobile App Development students recently completed co-op work in the summer of 2020, accepting positions at LTD Services, DonutWind LLC, and SmartPillow. This cohort is currently in the final semester of the program and will work on various capstone projects, involving clients such as Baby Fingers, Hands and Voices, and Walking for Rochester. All of those organizations are non-profit organizations in the Washington, DC, Chicago and Rochester areas; students have the opportunity to design, develop and publish apps in Apple's App Store and Google Play.

The Applied Computer Technology AOS and AAS programs are also successful. Students in this program typically are placed in co-op and full-time positions performing functions related to technical support and network security. In the summer of 2020, the CompTIA A+ certification course was offered and resulted in seven students earning A+ certification by passing two core exams. The CompTIA A+ certification is the industry standard for establishing a career in IT; this offering will support students' readiness to enter the workforce.

The Department of Liberal Studies (DLS) successfully transitioned all of its in-person courses online in March 2020 in response to the coronavirus pandemic. DLS was not able to send any students abroad to study the lives and culture of deaf communities overseas because of COVID-19-related travel restrictions. During fall 2020, two developmental English courses also were set aside for a select group of first-year students in a pilot program focused on providing this group with college readiness skills, both academic and personal. DLS transitioned responsibility for the NTID Study Abroad program to International Educational Outreach at NTID.

Students in the Laboratory Science Technology (LST) program continue to gain meaningful cooperative work experiences, although the coronavirus pandemic disrupted the internship plans of a majority of LST students. By mid-March 2020, most of the second-year students had secured co-ops at locations such as the US Bureau of Reclamation, North Carolina State University, University of Tennessee at Knoxville,

Academic Program Highlights (continued)

James Madison University, Coastal Carolina University, Ron Rubin Winery (California), and Dow Chemical campuses in Midland, Texas, and Fort Saskatchewan, Alberta (Canada), for the summer of 2020, but all but one of these opportunities were canceled. Faculty and advisors are working with each impacted student to ensure successful degree completion either by securing a future co-op or by undertaking an alternate laboratory-related activity, including completion of coursework beyond that normally required for the degree. Our corporate and university co-op partners have shown an exceptional willingness to accommodate these students once the pandemic is over.

Given the disruption of the coronavirus pandemic, LST faculty seized the opportunity to share their experiences with the greater chemical education community via a peer-reviewed and disseminated journal article. The paper, titled "Successes and Challenges in Teaching Chemistry to Deaf and Hard-of-Hearing Students in the Time of COVID-19" and published in a special pandemic-related issue of the *Journal of Chemical Education* describes not only the modifications that were necessary to continue laboratory-related coursework online but also the social-emotional challenges faced by students. The article appears in the September 2020 issue of this American Chemical Society journal and is intended to serve as a reference for instructors and others who serve deaf and hard-of-hearing students in the direct instruction and mainstream environments.

Considerable work was also undertaken to ensure further alignment of the NTID mathematics curriculum into RIT's transfer credit process. In partnership with the NTID Department of Liberal Studies, a memorandum of understanding was developed that outlines a more streamlined process for accommodating students who complete mathematics coursework elsewhere and transfer to RIT/NTID, thereby ensuring that students will receive credit for any course taken across the NTID and RIT math and English curricula. The process was implemented in time to support the entry of students matriculating at RIT/NTID starting in the fall of 2020.

The Department of Visual Communications Studies (VCS) offered two- and three-dimensional design and production courses in two programs, Design & Imaging Technology (DIT) and 3D Graphics Technology (3DGT). The department enrolled 18% of the SVP population in its programs. Thirty-one of 43 applicants were accepted as first-year VCS students. Thirty-five students completed their program requirements. Nine AAS and 16 AOS degrees were awarded. VCS faculty are continuing to revise the curriculum by developing a new concentration in DIT as well as continuing their evaluation of a potential bachelor's degree program.

Associate+Bachelor's Degrees

A key feature of NTID's educational portfolio is the number of transfer associate degrees that provide a seamless transition to RIT baccalaureate programs. There now are 12 of these programs, called "associate+bachelor's" degree programs (to avoid confusion with the word "transfer"). They have been very successful, particularly 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.

At the beginning of the 2020-2021 academic year, 173 students were enrolled in these associate+bachelor's degree and pre-baccalaureate programs. This number has steadily increased as the number of such programs is expanded, new articulation agreements are added and the programs are marketed as precursors to RIT baccalaureate programs.

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. The Administrative Support Technology and Accounting Technology Programs continue to experience success with students transferring to and graduating from RIT's School of Individualized Study (SOIS). Six students were accepted to SOIS during AY 2019-2020. Current department numbers show 60% of students are in AS and BS degree programs and 40% are in AOS/AAS degree programs.

The Department of Engineering Studies (DES) has two associate+bachelor's degree programs: Applied Mechanical Technology (AMT) and Civil Technology. New student enrollments for fall 2019 increased

significantly for AMT, but not for Civil Technology. The AMT articulation agreement with RIT's College of Engineering Technology was modified during AY 2018-2019 by expanding to include Mechanical, Robotics & Manufacturing Engineering Technologies, which includes the electro-mechanical engineering technology program. The first cohort in the new AMT program is currently underway.

In addition to the current programs, the department has proposed several new degree programs that now are undergoing review at the college and university level, which is the next phase in curriculum development set by the RIT Office of the Provost. The first program is the Associate of Applied Science (AAS) degree program in Precision Manufacturing Technology (PMT), which is modeled on the current PMT-AOS program at NTID and is designed to prepare deaf and hard-of-hearing students for employment in precision manufacturing technology industries. This program will comprise 76 total credits, of which 52 are technical credits, including six credits of technical electives, and 24 liberal arts and science credits.

The second new program is the Associate of Applied Science (AAS) in Applied Engineering Technology (AET) program, which is designed to prepare deaf and hard-of-hearing students who are close to, but not fully ready for, entry into a baccalaureate-level program in engineering technology. This pathway includes completion of most of the coursework taken during the first two years of a BS program in RIT's College of Engineering Technology (CET). It is a bridge program for qualified students who are accepted based on academic transcripts, scores on admissions tests, and other evidence that supports a reasonable expectation of success in baccalaureate coursework.

Depending on the intended baccalaureate program, the AAS in Applied Engineering Technology program consists of 63 semester credit hours for packaging science, or 64 for computer engineering technology and electrical engineering technology. Those credit hours are earned over four semesters. Thirty of those credit hours are liberal arts and sciences (LAS), including Critical Reading and Writing, and two NTID mathematics courses taken as LAS electives, Writing Seminar, five LAS perspectives (artistic, ethical, global, social, and scientific principles) and calculus. The remaining 33-34 credit hours include three for a fundamentals of engineering course taken at NTID, three for an NTID course on computing tools for engineering technology or four of chemistry (depending on the intended BS), and 26-28 credit hours of coursework chosen from the first two years of the anticipated College of Engineering Technology BS program. The latter credit hours will include six of mathematics, seven or eight of science, and 13-14 hours offered by the intended BS program's department.

The Information and Computing Studies (ICS) department offers associate+bachelor's opportunities in Human-Centered Computing, Computing and Information Technologies and Web and Mobile Computing. In the summer of 2020, students that came from one of these programs and moved into the BS program received co-op opportunities at Microsoft, PNC Financial Services, RIT/NTID Technical and Information Support, NTID Center on Access Technology, FCC National Testing Lab and American School for the Deaf. Students continue to take advantage of the opportunities afforded by these programs to find full-time employment after graduation.

NTID's AS in Applied Liberal Arts (APPLA-AS) remains one of the largest associate+bachelor's degree programs. In the 11th year of the program, APPLA-AS graduates continue to be accepted 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.

Despite only being offered for two academic years, the AS in General Science program celebrated its second and third graduates who completed the biomedical sciences and environmental science tracks, respectively. A sizable cohort of students is on track to earn the AS degree in AY 2020-2021. As of fall 2020, 11 students are matriculated in the AS program across the range of tracks (biochemistry, biology, biomedical sciences, biotechnology & molecular bioscience, chemistry, and environmental science) offered. An additional four students are in the science pre-baccalaureate program.

Academic Program Highlights (continued)

Students who earn the AAS in Laboratory Science Technology continue to matriculate into BS programs at RIT, thanks in part to the range of articulation agreements that have been developed. Program alumni are currently enrolled in RIT College of Science BS programs in biotechnology & molecular bioscience, chemistry, and environmental science as well as the BS in Applied Arts and Sciences offered by the School of Individualized Study. The transfer agreements between the LST AAS, General Science AS, and RIT BS programs in biology and in biotechnology & molecular bioscience were updated during the 2020-2021 academic year to prepare for curricular changes to be implemented in the College of Science starting in fall 2020.

NTID's science course offerings, both in the LST program as well as those taken by non-science students as part of RIT's general education framework, were reviewed over the past year with the goal of achieving enhanced alignment of the department's general education offerings to support students' transitions into baccalaureate programs. As a result, a total of seven science courses now have the "natural science inquiry" designation in addition to serving as "scientific principles" perspectives, thereby providing a mechanism for students who complete an NTID associate degree to finish both of the general education science requirements of a bachelor's degree with NTID science coursework. The progress follows the previous year's successful effort in ensuring alignment of the NTID mathematics curriculum with coursework offered by RIT's School of Mathematical Sciences.

The Department of Visual Communications Studies' AAS 3DGT program includes an articulation agreement with the 3D Digital Design (3DDD) BFA program in RIT's College of Art and Design (CAD). Ten students from VCS's 3DGT program were enrolled in CAD's 3DDD program.

There is a long history of students successfully making the transition from the NTID VCS Design & Imaging Technology AAS degree program into a CAD BFA or BS program. There were 63 other students enrolled in CAD programs in addition to the seven students in 3DDD.

American Sign Language and Interpreting Education (ASLIE)

ASLIE offers several programs: BS in ASL-English Interpretation; MS in Health Care Interpreting; Certificate in Healthcare Interpreting; NTID ASL; and NTID New Signers Program. ASLIE faculty also teach Modern Languages & Cultures ASL courses offered through RIT's College of Liberal Arts; several courses in NTID's MS in Secondary Education program; ASL courses offered through the NTID Department of Cultural & Creative Studies; and courses offered by NTID's ASL Evaluation and Training department. ASLIE has 18 faculty, four staff, two tutors and at least 10 adjuncts. ASLIE has taught at least 833 RIT and NTID students.

BS in ASL-English Interpretation Program

The BS in ASL-English Interpretation (BSI) program enrolled 48 new students in fall 2020, bringing the total number of students from 152 in Fall 2019 to 170, a 14.5% increase.

Twenty-three students graduated with the BS degree in ASL-English Interpretation (BSI) in AY 2019-2020. Both an employer survey and a mentor survey were conducted to ascertain these constituents' perceptions of graduates and students. The results of these surveys informed curricular review and will assist in preparation for program accreditation by the Commission on Collegiate Interpreter Education (CCIE). The BSI program continues to seek stakeholder input through the ASLIE Advisory Group.

ASLIE offered the following ASL courses in the BSI program: ASL II, Foundations of ASL, ASL IV and ASL VI during the fall semester; and ASL III, ASL V and ASL VII during the spring semester.

In addition to the program courses that are required for graduation, BSI students can take a variety of specialized elective courses that enhance their skill set and may provide a competitive edge when seeking employment: Interpreting Frozen & Literary Texts; Introduction to Working with the Deaf Blind Community; Introduction to K-12 Interpreting; Educational Interpreting: Elementary Settings; Educational Interpreting: Middle/Secondary Settings; Educational Interpreting: Post Secondary Settings; Introduction

to Cued American English; Healthcare Interpreting; Mental Health Interpreting; Introduction to Legal Interpreting; Community Interpreting; Introduction to VRS/VRI Interpreting; and Interpreting in Research Settings.

Eighteen of the required courses in the degree program were reviewed and updated through the curriculum review process this academic year.

The BSI program again partnered with Sorenson Video Relay Service, an industry leader. Sorenson offers a Synergy program which allows students to observe working interpreters in the Rochester, New York, call center. The Synergy program adapted to the coronavirus pandemic by offering students the opportunity to practice mock VRS phone calls with Deaf and hearing consumers. Sorenson also offered students workshops on a variety of topics: Avoiding English Intrusions; Show vs. Tell; Classifiers; Use of Space; VRS Q & A; and Breaking from Form.

Students in the BSI program provided volunteer interpreting services to the Rochester community as a way to satisfy practicum requirements and earn valuable interpreting experience. The practicum coordinator screens such requests for appropriateness.

MS In Health Care Interpretation Program

ASLIE's MS in Health Care Interpretation program enrolled five students in the fifth cohort beginning summer 2020. For AY 2020-21, the total of students is 11. 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.

Certificate in Healthcare Interpreting Program

The Certificate in Healthcare Interpreting (CHI) program is in its 10th year of delivery as a blended online program with a one-week on-site start up. This nine-month program accepted 18 students this year. The feedback from program graduates is overwhelmingly favorable and has led to NTID being viewed as a national leader in the field of healthcare interpreting.

Modern Languages & Cultures Department's ASL Courses

ASLIE's ASL program offers RIT's College of Liberal Arts (CLA) with Modern Languages & Cultures (MLC) Department's 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. An ASL immersion comprises any three courses from ASL and Deaf Cultural Studies. In AY 2019-2020, the MLC program had an enrollment of 249 in the fall semester, and 166 students in the spring semester. During the summer, ASLIE offered Beginning ASL I online. Eleven students took the summer Beginning ASL I course. In fall 2019, 32 students were enrolled in the ASL and Deaf Cultural Studies minor; in spring 2020, 35 students minored in ASL and Deaf Cultural Studies.

ASLIE ASL Programs

The ASL program also offered an evening course—Introduction to ASL and Deaf Culture I—in the fall and spring semesters. The course is designed for RIT students, faculty, staff and community members interested in a basic introduction to ASL and Deaf Culture. In AY 2019-2020, the Introduction to ASL and Deaf Culture program had an enrollment of 13 students in the fall semester and 12 students in the spring semester.

Academic Program Highlights (continued)

The ASL program also provided ASL courses for NTID students as part of the ASL/Deaf Studies requirement. In AY 2019-2020, in the fall semester, 38 students were enrolled in ASL I, and seven students were enrolled in ASL II. Sixteen students were enrolled in Beginning Mexican Sign Language in the fall semester. Three students were enrolled in ASL I, and 15 students were enrolled in Beginning Russian Sign Language in the spring semester.

An 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 2019-2020, ASLIE served seven MSSE students.

In addressing one of the *SD 2020* initiatives, ASLIE offered for the ninth consecutive year a New Signers Program to incoming NTID students who have minimal or no ASL skills. The New Signers Program (NSP) is an innovative and original program designed to encourage the transition of students with no ASL skills through an ASL immersion experience. For the first time, NSP was offered as a one-credit course that is counted toward a student's degree. In summer 2020, 28 incoming first-year and transfer students participated in this two-and-half-week program, which was offered virtually due to the coronavirus pandemic. Three online sections were offered: one for NTID students accepted into NTID programs; one for NTID students accepted into RIT programs; and one mixed group of NTID students accepted into NTID and RIT programs. Each section had its own teaching assistant and instructor, who taught new material for part of the day. Later in the day, all three sections reconvened to practice in small mixed online break-out groups with guidance from an instructor or teaching assistant. In addition, students participated in online evening activities two times a week to discuss Deaf culture issues in depth with former NSP students and staff guests. The New Signers Program is positioned to gain momentum and continue as a valued and intrinsic part of NTID's culture.

RIT First Class Academy ASL Course

In response to the COVID-19 situation, RIT offered a new summer online First Class Academy (FCA) for incoming RIT freshmen as an incentive for them to attend RIT in the fall semester. Four sections of the FCA course Introduction to ASL and Deaf Culture were offered. Eighty RIT freshmen participated in this course.

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 nine students during the 2019-2020 academic year, its 26th year.

All 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).

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.

In AY 2020-2021, the MSSE program has an enrollment of 34 students, of whom 20 (59%) are deaf or hard of hearing and 24% are members of underrepresented populations. At least 10 students are anticipating graduation from the program during the 2020-2021 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 College of Science, College of Liberal Arts and Kate Gleason College of Engineering as well as RIT's School of Individualized Study. The specifics related to this program can be found at https://www.rit.edu/ntid/msse#the-rit-42-teacher-education-program.

The program has the privilege of working with international students. During the 2019-2020 academic year, two international students, one of whom is a Fulbright scholar, graduated from the program. There are no international students for the 2020-2021 academic year due to the coronavirus pandemic.

MSSE is accredited by the Council for the Accreditation of Teacher Preparation (CAEP), 2013-2020, and approved by the Council on Education of the Deaf (CED), 2014-2020.

Study Abroad Experiences

NTID continues to expand its study abroad program through a three-pronged approach: 1.) NTID faculty-led study abroad experiences, 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 and 3.) exchange program (partnership with educational institutions that allow students to directly enroll for five weeks). These programs are offered for three general education credits under International Studies Seminar. They are open to all NTID-coded students at RIT, including the MSSE and ASLIE programs. Due to the coronavirus pandemic, several trips were canceled and RIT Global pivoted quickly, developing two styles of study abroad programs: 1.) traditional study abroad program where students traveled abroad (prior to the pandemic) and 2.) Virtual Intercultural Experience for students who were already enrolled in a study abroad program but had the travel portion of the program abruptly canceled. For students attending the Virtual Intercultural Experience program model, the coursework was modified to allow students to complete the coursework without traveling. The total number of NTID students that participated in study abroad programs during the 2019-2020 academic year is 29. Countries that had programs involving our students included Australia, China, Croatia, Ecuador, Germany, Sweden and United Arab Emirates. No physical trips abroad are being planned for 2020-2021, but virtual experiences for students will continue.

Communication Studies and Services (CSS)

The Communication Studies and Services Department (CSS) is composed of faculty and staff with expertise and training in the areas of communication, audiology and speech-language pathology. CSS audiologists and speech-language pathologists offer for-credit courses for students. Faculty and staff provided 52 credit hours of instruction for 197 students in AY 2019-2020.

CSS offers several courses that cover a variety of topics geared toward workplace success: Problem Solving, Interpersonal Relationships, Communication Across Cultures, Effective Teams, and Organizational Communication & the Deaf Employee. Each course satisfies one or more NTID General Education Perspectives requirement. Additionally, several courses are approved for the RIT General Education Perspectives requirement, allowing students to focus on their post-NTID academic goals.

Other areas where direct instruction is provided are MSSE (Master of Science in Secondary Education) and the ASL-English Interpretation program. An Educational Audiology and Spoken Language Development required course is provided to students enrolled in the MSSE program. Cued Speech courses are provided as electives to those enrolled in the ASL-English Interpretation program.

In addition to these courses, the CSS department supports student learning in a variety of ways. The CSS department also provides clinical services in the Audiology Center and Speech & Language Center, including appointment-based and walk-in opportunities. Faculty and staff provided 2,773 hours of audiology services to 654 students and others members of the RIT community and 3,219 hours of individual speech-language instruction to 163 students. During the 2019-2020 academic year, the audiology discipline provided walk-in services in the Audiology Center, and the speech-language discipline served students during walk-in services.

CSS reinforces students' academic and personal learning and development by hosting communication skill development groups. Topics of interest have included communication apps, executive function, group conversation and gender-affirming communication coaching. Faculty and staff within CSS serve as liaisons and advisors to student-centered initiatives such as the Vision Support Committee and the university's Q Center.

The above listed services are available to students to further support communication, their success in the classroom and their preparation for communicative success in the workplace. The delivery of these services was creatively shifted to a largely virtual experience when the coronavirus pandemic hit during the spring semester, which resulted in subsequent functional practice for students through the remote utilization of communication and accessibility technologies.

CSS is committed to equipping future professionals with firsthand knowledge and training to provide audiological and speech-language services to deaf and hard-of-hearing adults. CSS annually accepts a full-time extern pursuing their doctoral degree in the field of audiology and internship experiences to master's degree students in Speech-Language Pathology each semester. These professionals-in-training come from various accredited universities and colleges throughout the United States.

NTID Learning Consortium

The NTID Learning Consortium is made up of the NTID Learning Center and the NTID Office of Online Learning.

The NTID Learning Center (NLC) provides a variety of academic resources to help students succeed in college. These include computer workstations, spaces for tutoring and individual/group study, a multipurpose video lab, studying tools and printing areas.

The NLC is centrally located in Lyndon Baines Johnson Hall. A full-time student worker is available at the resource desk and maintains an academically focused environment for users while simultaneously developing work-related skills in a real-world setting.

The NLC has a number of studying and learning resources available for faculty, staff and students to borrow from its resource desk. These include calculators, smartphone chargers, headphones, memory card readers, webcams, PowerPoint clickers and Wacom pen tablets. The NLC also provides a reference area with books provided by faculty for students to use for their courses.

The NLC also houses a multipurpose video lab for video recording and editing for the NTID community. 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 NLC also provides a multipurpose video studio for instructors involved with developing video instructional materials. This lab is stationed outside of the NLC and is available to instructors anytime the building is open.

For more formal instructional activities, the NLC utilizes the Sprint Relay Experimental Distance Learning/Access Demonstration Lab (Sprint Lab), which supports various activities such as conducting experimental classroom technology projects as well as video/lecture-capturing for online, blended and flipped course material development for archiving and subsequent "anytime/anywhere" access by students. The Sprint Relay Lab continues to serve 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. The NTID Office of Online Learning continues to expand the number of online courses taught by NTID instructors. Current initiatives include plans to offer a fully-online version of NTID's Business Administration AAS degree in AY 2021-2022.

These distance-learning tools and delivery systems allow deaf and hard-of-hearing students opportunities to learn anywhere, anytime. The innovative adaptation of current and emerging technology promises significant contributions in expanding notions of where, how and with whom learning can happen.

Academic Program Highlights (continued)

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.

At the beginning of AY 2020-2021, 421 students (48% 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 2019-2020. In addition, academic degree programs completed the RIT Progress Reports based on AY 2018-2019 results. During the spring semester of AY 2019-2020 the coronavirus pandemic caused RIT/NTID to move fully online to remote learning.

The 10th annual RIT Progress Report, completed in November 2019, 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 2018-2019 Outcomes Assessment Plans. This was the seventh 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 Committee (SLOAC).

All NTID programs are assessing student learning annually and meeting student achievement benchmarks. NTID's response rate was 100%, with 24/24 programs completing the report. NTID contributed favorably toward the RIT rate of 99% of programs completing assessments. Additionally:

- One hundred percent of NTID programs met or exceeded established benchmarks for at least one student learning achievement, compared to the RIT level of 96%; and
- Each program's Progress Report was rated for continuous improvement by the RIT Educational Effectiveness Assessment Office. Eighty-nine percent of NTID programs indicated use of assessment results to guide program planning improvements, compared to RIT's 90%. NTID's 89% is an improvement from the previous year's rate of 78%.

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 RIT Progress Reports mentioned above. 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 2019-2020 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 100% of NTID students received satisfactory overall evaluation ratings from their supervisors related to their cooperative work experience performance. This is considered outstanding given that there was a pandemic and NTID shifted to remote learning in the spring semester.

Academic Program Highlights (continued)

ASL and Interpreting Education Department (ASLIE)

- **ASL-English Interpretation BS:** Benchmarks were exceeded on eight out of 10 outcomes assessed this year. One hundred percent of students received ratings of satisfactory or better on their overall ASL competency on their Community Presentation Evaluation, which is an improvement from the previous year's rate of 78%. One hundred percent of students in the Issues in Interpreting course produced successful poster presentations and successful research papers demonstrating critical thinking and problem-solving skills. Eighty-two percent of students demonstrated successful interpreting competency from ASL to English, which is an improvement from the previous year's rate of 77%. Ninety-five percent of students demonstrated successful English to ASL interpreting competency. Ninety-five percent of the students received a rating of satisfactory or better on the "Ethical Reasoning" rubric, which is an improvement from the previous year's rate of 88%. Ninety-five percent of students were rated by practicum supervisors as demonstrating satisfactory entry-level work habits and 100% for overall interpreting ability. Seventy-nine percent of seniors expressed satisfaction with the programs and 97% of students who sought employment after graduation were working.
- **Health Care Interpretation MS:** The MS degree in Health Care Interpretation program started reporting outcomes two years ago. This year students exceeded all four course-based outcomes and met the program assessment. One hundred percent of students received a rating of satisfactory or better on their independent investigation on a topic related to their interest specifically in the context of research and science with their findings summarized in both academic ASL and English. On the graduate satisfaction survey, 100% of graduates were satisfied with the program and its impact on advancing their achievement career-wise, which is a tremendous improvement compared to last year's rating of 88%.

Business Studies Department

- **Accounting Technology AAS:** Exceeded the benchmark for four outcomes and did not have any students in two courses for the other two benchmarks. One hundred percent of students earned an average of 80% or higher on their marketing project. One hundred percent of students received satisfactory overall ratings on co-op employer evaluations and 100% were rated as demonstrating satisfactory job performance related to aptitude, the ability to learn quickly, and the ability to apply technical knowledge.
- **Administrative Support Technology AAS:** Students exceeded the benchmark for three direct course-based assessments and did not meet the benchmark for one other course-based outcome which is an improvement from last year's report of only two benchmarks that were met. One hundred percent of the students demonstrated the ability to type with speed and accuracy at a satisfactory rating, which is an improvement from last year's report of 60%. The department implemented use of an online typing platform which provides diagnostic data to address the challenges students face in meeting expectations. One hundred percent of the students earned an acceptable rating score on the e-Portfolio Rubric, indicating competence in choosing and applying computer software to create business documents, and demonstrating their interpersonal skills. In addition to course-based assessments, 100% of students received a satisfactory overall rating by their supervisors for their co-op placements, for their ability to learn quickly, apply technical knowledge on the job, and transfer theory to employment situations. One student seeking employment after graduation was employed.
- **Business AS:** Criteria exceeded for three of the five outcomes, met for one, and not met for one outcome. Ninety-one percent of students demonstrated appropriate interpersonal business skills and teamwork, which is an improvement compared to the previous year's rating of 86%. Students met the benchmark for describing the interrelatedness of social, cultural, and business factors that shape and impact the global business environment. Also, students were able to successfully identify and apply creative methods for idea generation and formulated a business model for a new product/service. The BS program at the Saunders College of Business accepted all of the five students who graduated and applied for admission to their program.

Academic Program Highlights (continued)

- **Business Technology AOS:** Students exceeded benchmarks on six outcomes and were slightly below criteria on two others. For keyboarding speed and accuracy, 70% of students exceeded the keyboarding outcome, which is an improvement from last year's report of 50%. The department implemented an online typing tool that provides diagnostic data to help students meet expectations. One hundred percent of students earned acceptable ratings on the rubrics for the e-Portfolio. There were no AOS students enrolled in the Accounting capstone this year. One hundred percent met the expectations for the Marketing Project, which incorporates a scaffolding approach with six components. This is an improvement from last year's rating of 60%. Since this is only the third year for the project, faculty will continue to monitor outcomes. One hundred percent of students received a satisfactory overall rating by their supervisors for their co-op placements and were rated satisfactory on demonstration of ability to learn quickly and apply technical knowledge during their co-op placement. One hundred percent of students seeking employment were employed.

Career Exploration Studies Department
- **First Year Experiences:** Benchmark exceeded for students enrolled in the Freshman Seminar with a grade of C or higher. This was the first time SVP was offered virtually due to the coronavirus pandemic. Eighty percent of students were satisfied with the virtual SVP, which did not meet the benchmark of 90%. Criteria were not met for students returning for full-time study the following year.
- **Career Exploration Studies:** Ninety-four percent of students exceeded benchmarks by passing the Level A reading/writing and mathematics courses within two semesters, excluding those who withdrew from the university or were suspended from the university. All CES students who applied to a major were accepted within two semesters.

Communication Studies and Services Department
- **Communication Studies:** All students exceeded benchmarks based on co-op supervisors' ratings, including the outcomes for demonstrating competence in face-to-face communication or for email communication during cooperative work experiences. Eighty percent of students scored an average of the acceptable 4 on a 5-point scale this year.
- **Speech-Language, Aural Rehabilitation and Audiology Services:** Only one outcome was exceeded and three other outcomes did not have enough data due to the coronavirus pandemic. Ninety-three percent of students indicated satisfaction with speech-language and audiology services during the fall semester and reported a self-perceived benefit as a result of the services. Aggregate annual measures of students' progress toward stated communication goals were unable to be assessed for AY 2019-2020 due to low numbers and RIT's closure in March when the COVID-19 outbreak occurred in New York. Additionally, students that reside in states other than New York may not have been eligible to continue receiving speech and language instruction due to state licensure. NTID speech-language pathologists are licensed to practice only in New York State. Diligent efforts to make headway with licensure boards in other states to obtain approval to continue services had mixed results. Therefore, even if high quality evaluation measures had been obtainable, they would have been applicable only to students in New York or other states that granted special permission to continue with teletherapy. Students who were able to continue via teletherapy in New York or elsewhere were provided with information about the change in service provision, provided informed consent via email, and they subsequently either consented or did not give consent to continue.

Engineering Studies Department
- **Applied Mechanical Technology AAS:** Benchmarks were exceeded for five outcomes and one outcome was met. Criteria were exceeded for receiving a grade of C or better on the written test and final project in the Mechanical Design and Fabrication course. More than 75% of students earned the appropriate grades in key courses preparing them to apply for enrollment in RIT's BS program. One student passed the Strength of Materials course with a grade of C or better. Two students graduated with an AAS degree and two graduated with a BS degree in MCET. The student satisfaction survey shows 100% overall satisfaction with the program.

- **Computer-Aided Drafting Technology AOS/AAS:** Criterion levels were exceeded for five outcomes, met for four assessed outcomes and not met for one outcome. All benchmarks were met for identifying issues related to sustainability in the construction industry. Benchmarks were also met for preparing student portfolios and exceeded for outcomes related to engaging productively in a collaborative team project and the final project in the Advanced Construction course; however, a benchmark was not met for the technical drawing practical assignment. One hundred percent of students received satisfactory overall ratings from their supervisors related to their co-op placement performance. All of the students indicated overall satisfaction with the program.

- **Precision Manufacturing Technology AOS:** The program changed its name from Computer Integrated Machining Technology to Precision Manufacturing Technology last year to more accurately reflect trends in the industry. Criterion levels were exceeded for five outcomes, met for seven assessed outcomes, and not met for one other, which is an improvement compared to last year's assessment. All benchmarks were met for the ability to interpret blueprints using computer-assisted programming, applying mathematical concepts and engineering graphics skills to solve machining problems, setting up computer-assisted machining software, developing skills and knowledge related to safely operating conventional machines, tools and other automatic equipment. The benchmark of passing competency-based final exams in Precision Optics Manufacturing 1 course was not met this year.

- **Civil Technology AAS:** There were no second-year students in this program in AY 2019-20 so data was not collected on courses taken by second-year students. One hundred percent of students exceeded the benchmarks of using CAD to produce 2D technical drawings and solving mathematical problems related to technical drawings. There were no Civil Technology AAS graduates who applied to the RIT Civil Engineering Technology BS program this year. Prior AAS graduates who have gone on to the Civil Engineering BS program have graduated successfully and exemplify the type of students for whom this AAS program was designed.

Information and Computing Studies Department

- **Applied Computer Technology AS:** Criterion levels exceeded for nine outcomes, met for two assessed outcomes, and not met for three outcomes. Benchmarks that were exceeded this year show students demonstrated an understanding of the day-to-day job responsibilities and roles of an IT Support Technician within an organization, hands-on projects related to Helpdesk support and network security, and their final capstone project. One hundred percent of students exceeded overall satisfaction from their co-op supervisors. Criteria were not met for completing the tasks including installment, configuration, troubleshooting, and maintenance in the Windows Operating System, drivers and application programs, demonstrating fundamental programming and web skills. One hundred percent of graduates gained entry-level employment in computer support.

- **Applied Computer Technology AOS/AAS**: The findings showed that benchmarks were exceeded for nine of the 14 assessed outcomes, met for two, and not met for three. For example, 80% of students were able to restore a PC to working condition, 88% successfully completed and passed the hands-on projects related to HelpDesk support and 80% were able to install, configure, administer, and troubleshoot the network. One hundred percent of students passed their final technical presentation evaluation, which is an improvement from last year's rating of 93%. The benchmark related to the ability to connect, configure, manage, secure and troubleshoot a small intranet peer-to-peer or client/server network was not met this year. Action plans include evaluation of the number of tasks, level of assessments, instructional time and students' time on task during assessments.

- **Mobile Application Development AAS**: This is the first time this program participated in the outcomes assessment report since its implementation last year. Seven benchmarks were exceeded and one was not met. One hundred percent of students were able to correctly and efficiently code a solution; successfully create a UML diagram that accurately represents a given problem; design, refine and finalize a functional and user-friendly cross-platform user interface; create and test mobile applications for two or more platforms; and demonstrate effective team interpersonal and communication skills. One student passed the

hands-on exam related to programming fundamentals. Criteria for the final capstone project were not met.

Liberal Studies Department

- **Applied Liberal Arts AS:** Eighty-six percent of students passed the written English competency in one course, which is an improvement from last year's rating of 75%. Eighty-three percent to 93% of students passed the general education Perspectives 1-4 courses, which is an improvement compared to last year's assessment. The benchmark was nearly met for mathematical and scientific perspectives. Eighty-two percent of students exceeded the benchmark related to earning a grade of "C" or better in the Professional Elective courses in each student's field of study. One hundred percent of students were accepted into the College of Liberal Arts or an equivalent bachelor's degree program, which is the primary goal of the AS in Applied Liberal Arts program. Ninety-one percent of students expressed overall satisfaction with the program upon graduation and while studying at the baccalaureate level, which is a small improvement compared to last year's rating of 90%.

Master of Science in Secondary Education Department

- **Master of Science in Secondary Education of Students who are Deaf or Hard of Hearing**: Twenty-three measures included in the revised assessment plan created this year were assessed. Criteria were exceeded for 10 measures and met for one, which is an improvement from last year's seven measures that were met. Due to the coronavirus pandemic this year, students did not have a chance to take the NYSTCE certification tests. Students were eligible under the COVID-19 licensure this year. Some students chose to pursue certifications in the states where they will teach after graduation. Students met or exceeded the criteria levels for micro-teaching performance, planning for classes, 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, one of the program's strengths is micro-teaching activities offered in the program to prepare students for real-world teaching experience.

Science and Mathematics Department

- **Laboratory Science Technology AOS/AAS:** Benchmarks were exceeded for four assessed general skills and technical competency areas, employment, and placement; and not met for five criteria. Due to the coronavirus pandemic, students were unable to complete their cooperative experiences during the summer term. However, 77% of students had obtained co-op positions to complete their required experiences prior to the pandemic. This is the second year the revised assessment plan was used, and it was effective in producing results that can lead to program improvement. Students demonstrated competency in the use of various analytical instrumentation, and demonstrated just below the criteria for biological and biotechnology-related techniques. One hundred percent of graduates who sought employment were employed. Seventy-one percent of students were overall satisfied with the program, which is an increase from the assessment last year of 65%. The benchmark was not met for a semi-logarithmic plotting lab activity, quality control procedures and for performing simple distillation of some chemicals. The department will continue to evaluate the series of courses for their impact on this assessment.
- **General Science AS:** AY 2019-20 is the first year of outcomes assessment for this program. Four benchmarks were exceeded, two were met, and three were not met. Eighty-nine percent of students performed well on the General & Analytical Chemistry I lab activities and final exams. One hundred percent of students who graduated from this program were accepted to RIT's BS programs and satisfied their professional electives during their sophomore year. Benchmarks were not met for the Advanced Mathematics final exam and the number of AS students who graduated this year.

Academic Program Highlights (continued)

Visual Communications Studies Department

- **Design and Imaging Studies AOS/AAS:** Criteria were exceeded for four of the eight outcomes assessed and not met for four. One hundred percent of students exceeded expectations for interpersonal and soft skills; developing cover letters, resumes, and portfolios; preparing for employment interviews; and use of appropriate software and hardware for a graphic media project. Due to the coronavirus pandemic this year, benchmarks related to co-op evaluations were not met.
- **3D Graphics Technology AAS:** AY 2019-20 is the second year of outcomes assessment for this program. Benchmarks were exceeded for nine assessed outcomes and met for two, which is an improvement from last year's assessment. One hundred percent of students demonstrated effective project management and teamwork skills and satisfied co-op supervisors' evaluations. Benchmarks related to using appropriate software applications and hardware systems in the design and production of 3D graphic projects, preparing portfolios, completing capstones, demonstrating appropriate writing skills and use of technical vocabulary, exhibiting individual competence in 3D graphics and production of professional quality 3D media, and describing the interrelatedness of social, cultural, and visual communication factors were exceeded.

Enrollment by Degree Programs

In fall 2020, 56% of NTID's 1,101 students were enrolled in a broad array of programs within NTID. Forty-four percent were enrolled in other colleges of RIT, including 66 students in graduate programs. Of the 1,101 students, 908 are deaf and hard-of-hearing students including 20 students in the MSSE program. In fall 2020, 46% (421/908) of NTID's deaf and hard-of-hearing students were enrolled in NTID programs, and 54% (487/908) were 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)	14
Career Prep Foundation (UND)	11
Subtotal	**25**
NTID Career-Focused	
Non-Degree Student (NONDEG)	3
Administrative Support Technology (UND)	1
Applied Computer Technology (AAS)	20
Applied Computer Technology (AOS)	27
Applied Computer Technology (UND)	1
Business Technology (AOS)	30
Computer-Aided Drafting Technology (AAS)	8
Computer-Aided Drafting Technology (AOS)	17
Computer-Integrated Machining Technology (AOS)	20
Design & Imaging Technology (AAS)	28
Design & Imaging Technology (AOS)	38
Engineering Technologies (UND)	4
Laboratory Science Technology (AOS)	4
Subtotal	**201**
Associate+Bachelor's Degrees	
3D Graphics Technology (AAS)	11
Accounting Technology (AAS)	2
Administrative Support Technology (AAS)	6
Applied Computer Technology (AS)	15
Applied Liberal Arts (AS)	21
Applied Mechanical Technology (AAS)	14
Business (AS)	19
Business Administration (AAS)	13
Civil Technology (AAS)	3
General Science (AS)	11
Laboratory Science Technology (AAS)	30
Mobile Application Development (AAS)	12
Subtotal	**157**

	Number of Students
NTID ASL-English Interpretation	
ASL-English Interpretation (BS)	170
Health Care Interpretation (MS)	11
Subtotal	**181**
NTID Master of Science in Secondary Education (MSSE)	
Secondary Education of Students who are Deaf or Hard of Hearing (MS)	34
Subtotal	**34**
NTID Pre-Baccalaureate Students	
Pre-Baccalaureate Engineering (UND)	2
Pre-Baccalaureate Liberal Arts (UND)	4
Pre-Baccalaureate Science (UND)	4
Pre-Baccalaureate Visual Communication (UND)	6
Subtotal	**16**
NTID Subtotal	**614**
Baccalaureate Students in Other RIT Colleges	
College of Engineering Technology	
Civil Engineering Technology (BS)	12
Computer Engineering Technology (BS)	4
Electrical Engineering Technology (BS)	3
Electrical/Mechanical Engineering Technology (BS)	4
Mechanical Engineering Technology (BS)	18
Media Arts and Technology (BS)	1
Packaging Science (BS)	5
ROBOTICS Manufacturing Engineering Technology (BS)	1
Subtotal	**48**

	Number of Students
Saunders College of Business	
Accounting (BS)	10
Business Undeclared (UND)	3
Finance (BS)	2
Hospitality and Tourism Management (BS)	1
International Business (BS)	3
Management (BS)	6
Management Information Systems (BS)	9
Marketing (BS)	3
Supply Chain Management (BS)	2
Subtotal	**39**
College of Science	
Applied Mathematics (BS)	2
Biochemistry (BS)	1
Bioinformatics (BS)	1
Biology (BS)	7
Biotechnology (BS)	3
Chemistry (BS)	3
Computational Mathematics (BS)	1
Environmental Science (BS)	6
Physics (BS)	1
Science Exploration (UND)	2
Subtotal	**27**
College of Art and Design	
3D Digital Graphics (BFA)	7
Film and Animation (BFA)	9
Fine Arts-Studio (BFA)	1
Furniture Design (BFA)	1
Graphic Design (BFA)	16
Illustration (BFA)	2
Industrial Design (BFA)	4
Interior Design (BFA)	4
Medical Illustration (BFA)	2
New Media Design (BFA)	7
Photographic Arts and Sciences (UND)	1
Photographic and Imaging Arts (BFA)	11
Photographic Sciences (BS)	3
Studio Arts (BFA)	2
Subtotal	**70**

Enrollment by Degree Programs (continued)

	Number of Students
College of Liberal Arts	
Advertising and Public Relations (BS)	7
Applied Modern Languages and Culture (BS)	1
Communication (BS)	10
Criminal Justice (BS)	12
Digital Humanities and Social Sciences (BS)	1
Economics (BS)	1
International and Global Studies (BS)	5
Journalism (BS)	2
Liberal Arts Exploration (UND)	3
Museum Studies (BS)	1
Political Science (BS)	2
Psychology (BS)	15
Public Policy (BS)	2
Sociology and Anthropology (BS)	2
Subtotal	**64**
Kate Gleason College of Engineering	
Biomedical Engineering (BS)	4
Chemical Engineering (BS)	3
Computer Engineering (BS)	4
Electrical Engineering (BS)	8
Engineering Exploration (UND)	3
Industrial Engineering (BS)	2
Mechanical Engineering (BS)	12
Subtotal	**36**
B. Thomas Golisano College of Computing and Information Sciences	
Computer Science (BS)	21
Computing Exploration (UND)	1
Computing and Information Technologies (BS)	17
Computing Security (BS)	5
Game Design and Development (BS)	9
Human-Centered Computing (BS)	5
New Media Interactive Development (BS)	1
Software Engineering (BS)	5
Web and Mobile Computing (BS)	16
Subtotal	**80**

Enrollment by Degree Programs (continued)

	Number of Students
University Exploration	
University Exploration (UND)	3
Subtotal	**3**
School of Individualized Study	
Applied Arts and Sciences (BS)	35
Subtotal	**35**
Student Affairs	
College Restoration Program	1
Subtotal	**1**
College of Health Sciences and Technology	
Biomedical Sciences (BS)	12
Exercise Science (BS)	4
Nutritional Sciences (BS)	1
Physician Assistant (BS)	1
Subtotal	**18**
Subtotal Baccalaureate Students in Other Colleges	**421**

RIT/NTID Senior Lecturer Michael Kane '87, '06, in the Department of Business Studies teaches a socially distanced accounting class in fall 2020.

	Number of Students
Graduate Students in Other RIT Colleges	
College of Engineering Technology	
Environmental, Health and Safety Management (MS)	1
Manufacturing and Mechanical Systems Integration (MS)	2
Print Media (MS)	1
Subtotal	**4**
Saunders College of Business	
Business Administration (MBA)	6
Business Administration Accounting (MBA)	1
Entrepreneurship and Innovation (MS)	1
Human Resource Development (MS)	1
Service Leadership and Innovation (MS)	2
Technology Innovation Management and Entrepreneurship (MS)	1
Subtotal	**12**
College of Art and Design	
Film and Animation (MFA)	2
Fine Arts Studio (MFA)	1
Visual Communication Design (MFA)	1
Subtotal	**4**
College of Liberal Arts	
Criminal Justice (MS)	2
Experimental Psychology (MS)	1
Science, Technology and Public Policy (MS)	1
Subtotal	**4**
College of Science	
Applied and Computational Math (MS)	1
Bioinformatics (MS)	1
Chemistry (MS)	3
Subtotal	**5**
Kate Gleason College of Engineering	
Engineering Management (ME)	1
Mechanical Engineering (ME)	2
Subtotal	**3**

	Number of Students
B. Thomas Golisano College of Computing and Information Sciences	
Computer Science (MS)	1
Computing and Information Science (Ph.D.)	4
Data Science (MS)	3
Human Computer Interaction (MS)	6
Information Science and Technology (MS)	1
Software Engineering (MS)	3
Subtotal	**18**
Golisano Institute for Sustainability	
Architecture (M.Arch.)	2
Subtotal	**2**
College of Health Science and Technology	
Health Systems Management (MS)	1
Subtotal	**1**
School of Individualized Study	
Professional Studies (MS)	13
Subtotal	**13**
Subtotal Graduate Students in Other Colleges	**66**
Total	**1,101**

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
ME	Master of Engineering
MFA	Master of Fine Arts
MS	Master of Science
MST	Master of Teaching
NONDEG	Non-Degree
Ph.D.	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 2019-2020	
	Fall	**Spring**
3D Graphics Technology	6.4	6.4
Accounting Technology	6.4	7.0
Administrative Support Technology	6.4	5.5
American Sign Language	9.5	7.0
Applied Computer Technology	5.7	5.0
Applied Computer Technology – Technical Computing	6.5	5.4
ASL-Deaf Culture	13.0	12.0
ASL-English Interpretation	12.0	9.7
Career Development	8.4	7.5
Communication Studies	10.9	11.2
Computer-Aided Drafting Technology	5.7	4.8
Computer-Integrated Machining Technology	5.7	5.8
English	12.3	8.7
General Arts & Imaging	7.4	7.5
General Business	7.1	9.4
General Engineering Studies	5.3	7.0
Graphic Design	8.1	7.0
Graphic Production	6.4	4.8
Health Care Interpretation	9.0	3.5
Humanities and Social Science	15.4	15.4
Laboratory Science Technology	8.6	8.2
Liberal Studies	0.0	9.0
Master of Science in Secondary Education	6.8	9.2
Mathematics	9.1	9.2
Mobile Application Development	5.7	4.3
Science	7.6	7.4
Overall Average	**8.2**	**7.6**

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 2020.

		Number of Students	
	Number of Sections	Deaf or Hard-of-Hearing	Hearing
Saunders College of Business			
Computer-Based Analysis	8	20	180
Subtotal	**8**	**20**	**180**
College of Art and Design			
Color Management Technology	1	0	4
Fine Print Workflow	1	4	4
History of Western Art: Ancient to Medieval	2	20	0
History of Western Art: Renaissance to Modern	2	25	0
Subtotal	**6**	**49**	**8**
College of Liberal Arts			
Abnormal Psychology	2	14	0
Advanced American Sign Language I	1	0	5
American Deaf History	1	13	15
Beginning American Sign Language I	6	5	107
Beginning American Sign Language II	5	8	45
Beginning Spanish IA	1	1	10
Biopsychology	1	2	25
Communication	1	10	0
Deaf Art & Cinema	1	9	27
Deaf Culture in America	2	14	50
Deaf Literature	1	8	10
Domestic Violence	2	13	6
Independent Study	1	0	1
Intermediate American Sign Language I	3	7	42
Intermediate American Sign Language II	2	7	21
Introduction to Criminal Justice	2	39	1
Introduction to Psychology	2	32	0
Introduction to Visual Arts	1	3	0
Linguistics of American Sign Language	3	15	45
Senior Project in Psychology	2	2	0
U.S. History Since 1945	1	13	0
Women and the Deaf Community	2	15	16
Subtotal	**44**	**230**	**426**

		Number of Students	
	Number of Sections	**Deaf or Hard-of-Hearing**	**Hearing**
College of Science			
Organic Chemistry Lab I	3	12	58
Organic Chemistry Lab II	2	8	33
Research and Thesis	4	0	8
Solar System Astronomy Lab	3	0	43
Stars and Galaxies Lab	3	3	46
Survey Design and Analysis	1	0	7
Subtotal	**16**	**23**	**195**
Interdisciplinary Studies			
Critical Reading and Writing	5	78	0
Intro Leadership Theory Practice	1	2	11
Multidisciplinary Life	2	16	92
Writing Seminar	7	93	0
Subtotal	**15**	**189**	**103**
Recreation and Wellness			
Cardio, Strength and Core	2	3	31
Country Line Dance	1	0	6
Functional Yoga	1	1	23
P90X	2	4	31
Sunrise Yoga	1	2	26
Ultimate Frisbee	2	0	24
Zumba Fitness	4	9	81
Subtotal	**13**	**19**	**222**
Academic Affairs			
RIT365: RIT Connections	4	6	75
Subtotal	**4**	**6**	**75**
Total	**106**	**536**	**1,209**

American Sign Language and Interpreting Education Programs

The degree program in ASL-English Interpretation graduated 31 students in 2019-2020. Forty-eight new students matriculated into the program in September 2020. Currently, 22% of total enrollment are students from ethnic minority backgrounds.

Since its inception, the Department of ASL and Interpreting Education has graduated 895 students. Of that number, 465 have graduated with an AAS degree, 406 with a BS degree, 16 with an MS degree and eight with a certificate.

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Fall Applicants	187	172	125	137	135
Accepted	57	63	64	67	71
Registrations	46	42	50	51	48
Enrollment					
BS	136	147	148	152	170
MS in Health Care Interpretation	8	15	12	9	11
Non-Matriculated	4	0	0	3	0
Total Enrollment	**148**	**162**	**160**	**164**	**181**
Employment Report					
Graduates	24	30	35	31	*
Employment Rate	100%	100%	97%	*	*

In addition to the interpreting program, ASL and Interpreting Education faculty also provided the following:	FY 2020 Enrollment
ASL courses in RIT's College of Liberal Arts	426
ASL courses for deaf students, NTID	59
ASL course for the MSSE program, NTID	7
Introduction to ASL and Deaf Culture, NTID	25
New Signers Program, NTID	28
Introduction to ASL and Deaf Culture, RIT's First Class Academy	80
Total	**625**

---

* As of the writing of this report, the employment information for FY 2020 and FY 2021 and graduation information for FY 2021 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 26th year. To date, 407 students have graduated from the program. Eighty percent of the FY 2019 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, Kate Gleason 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 https://www.rit.edu/ntid/msse#the-rit-42-teacher-education-program.

Thirty-one applications for admission for fall 2020 were received. Thirty-one were offered admission. Of those, 21 matriculated into the program. For the 2020-2021 academic year, the MSSE program has a total enrollment of 34 students: 13 second-year or returning students and 21 first-year students. Of the 34 matriculated students, 35% are deaf or hard of hearing and 24% are minority.

MSSE Student Data

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Fall Applications	44	24	13	14	31
Acceptances	19	8	7	12	31
New Registrations	17	5	7	8	21
Deaf and Hard-of-Hearing Enrollment	14	9	8	10	20
Total Enrollment	**30**	**19**	**17**	**22**	**34**
Employment Report					
Graduates	11	13	5	10	*
Employment Rate	100%	100%	80%	*	*

---

*　As of the writing of this report, the employment information for FY 2020 and FY 2021 and graduation information for FY 2021 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 2020, 181 students were enrolled in cooperative work experiences, and 48 academic programs had students on cooperative work experiences.

	Number of Students Involved in Cooperative Work Experiences*				
	FY 2016	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**
Sub-Baccalaureate					
NTID	88	108	84	54	47
Percent of Total Co-op Enrollment	32%	35%	31%	23%	26%
Baccalaureate/Master's					
College of Engineering Technology	51	56	50	50	21
Saunders College of Business	30	38	28	19	27
B. Thomas Golisano College of Computing and Information Sciences	43	50	46	42	32
Kate Gleason College of Engineering	25	23	29	31	22
College of Health Sciences and Technology	3	4	3	1	0
College of Art and Design	10	11	11	23	16
College of Liberal Arts	16	15	14	9	16
College of Science	5	8	5	3	0
Subtotal	183	205	186	178	134
Percent of Total Co-op Enrollment	68%	65%	69%	77%	74%
Total Co-op Enrollment	**271**	**313**	**270**	**232**	**181**

---

* 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.

Student Support Services Highlights

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

- Audiological services are provided by the Communication Studies and Services Department (CSS). CSS includes six audiologists trained to provide hearing evaluations, consultations, hearing aid trials and programming, cochlear implant mapping and upgrades, assistive technology and accessory fittings and individual listening and speechreading 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 have access to these services and can make appointments in The Audiology Center. In addition, audiologists are available to meet to troubleshoot and repair hearing aids and 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. CSS audiologists stay current with ongoing training and close working relationships with representatives from cochlear implant and hearing aid manufacturers to satisfy the ever-evolving needs of a diverse student population. CSS Audiology also offers routine ear, nose, throat and ophthalmology clinics for students on campus to meet with local physicians. CSS providers are prepared to match individuals' communication preferences (sign, voice or both).

- Speech and language services are provided by the Communication Studies and Services Department (CSS). CSS includes six speech-language pathologists trained to provide clinical services for deaf and hard-of-hearing students who want to enhance their communication competence and confidence. Individual, group and walk-in experiences aim to improve students' communication for face-to-face conversations, remote conversations, group discussions, job interviews and formal presentations. Speech-language services are designed to meet students' personal goals and can focus on a variety of areas such as speech intelligibility (articulation, pronunciation, voice, prosody), spoken language, grammar and technical/professional vocabulary and practice, communication strategies for work-related interactions, speechreading and listening training, presentation skill development and increased self-confidence when communicating. The Speech & Language Center is equipped with computer technology that provides students with visual feedback for speech and language analysis. Students can also explore new methods of communication practice and facilitation through the use of trending mobile apps and virtual reality equipment. CSS providers are prepared to match individuals' communication preferences (sign, voice or both).

- 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. In AY 2019-2020, 179 deaf and hard-of-hearing students were seen for these services.

- Personal and career counseling and academic advising. NTID Counseling & Academic Advising Services (CAAS) supports the academic, personal and career growth and success of all NTID-supported students. Department services are designed to be student-centered, proactive, developmental and responsive to student needs. Services are integrated within the students' academic and co-curricular experience and support the curriculum. Department services include academic advising, personal counseling and career counseling. Student success is also promoted through collaboration and consultation with advisors, tutors, instructors, administrators and other support service providers, as well as students' families and community professionals.

  CAAS provided more than 12,000 hours of academic advising, personal counseling and career counseling for students in AY 2019-2020. Academic advising includes, but is not limited to, student outreach, developing plans of study and monitoring degree audits to support student success and on-time graduation. Personal counseling addressed a variety of issues including transitional, familial, relational or identity concerns. All counselors and academic advisors (CAAs) adhere to the American Counseling Association Code of Ethics and serve as a confidential resource under Title IX. Career

counseling services are also provided for students seeking assistance in exploring interests, skills, change of majors or identifying career goals. CAAS manages the Career Resource and Testing Center (CRTC), which provides career skills assessments and resources. Career assessment results are reviewed with students and integrated into their academic plan. To ensure quality of services for our students, CAAS also maintains currency in the areas of academic advising and personal and career counseling through professional development.

In addition to advising and counseling roles and due to their expertise, CAAs also serve as Career Seminar Instructors during the Summer Vestibule Program and as Freshman Seminar instructors. Both roles are designed to support the transition into college life for first-year students. Members of the department also serve as guest lecturers in other courses to support skills needed for academic and personal success. CAAs also serve as career counselors for RIT/NTID Outreach's summer program for rising seniors, Explore Your Future.

Collaboration and consultation with key individuals, campus partners and community services are key to helping maximize students' academic, personal and career growth. CAAS collaborates with, among other groups, RIT's University Advising Office, Office of Financial Aid and Scholarships, NTID Student Financial Services, academic departments, vocational rehabilitation counselors and the students' families.

- The Student Life Team (SLT) continued its tradition in FY 2020 of both challenging and educating students by 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 experience.

  SLT's avenues of outreach and connection with students include: 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.

  In addition to the wide variety of programming that SLT offers, the team serves as a source of information for the NTID student community through its strong social media presence, which is used to communicate important events and activities. SLT hires student staff during the summer who provide significant support to the summer outreach programs and Summer Vestibule Program (SVP) as well as offers year-round positions to students during the academic year who work with SLT to provide activities, events and mentoring programs that support students. SLT strives to build a sense of community that allows students to feel at home and that they are part of something great.

- 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.

- The NTID Athlete Development Program is a holistic support program geared to deaf and hard-of-hearing student-athletes at the varsity level, those participating in club and intramural sports and those interested in overall wellness. Services include academic support, mentoring, oversight, educational workshops, team-building and leadership training. Deaf and hard-of-hearing varsity

student-athletes continue their success in the classroom, registering an average GPA of 3.0+ each semester since the establishment of the NTID Athlete Development Program. The NTID community continues to thrive through athletic competition, with the Deaf Basketball Association, Deaf Volleyball Association and TigerFest keeping the student body active throughout the year. All student-athletes are heavily involved in the RIT/NTID community, particularly through multiple student organizations on campus that include Hillel, MOCHA/WOCHA (Men/Women of Color, Honor, and Ambition), Student Athlete Advisory Committee and Deaf International Students Association. The growth in deaf and hard-of-hearing student-athlete participation in NCAA sports and intramural sports at RIT/NTID is anticipated to continue next year.

- Financial aid for domestic students was provided in FY 2020 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, 459 students received NTID scholarships, 121 received RIT scholarships, 783 received NTID-endowed scholarships and 83 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 2020, 150 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 still evaluating their major options while in the program are given a variety of career-sampling choices. This presents them with an opportunity to "test" a major for suitability; if it is not a good fit, they may simply enroll in a more suitable major or program. Due to the risk of COVID-19, the SVP program was conducted online via Zoom with interpersonal interaction via SMS, e-mail, videophone, Facebook and online meetings. There also is ample opportunity for peer interaction and fun. SVP always is a memorable experience as the students bond and make friends while beginning 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. Thirty sections were offered with an average class size of five students in fall 2020. 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 2019-2020, CES served 28 students in fall and 12 students in spring. One hundred percent of CES students who applied to a major were accepted into a major within two semesters.

- Substance and Addiction 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 consults on replicating the success of its model across New York State.
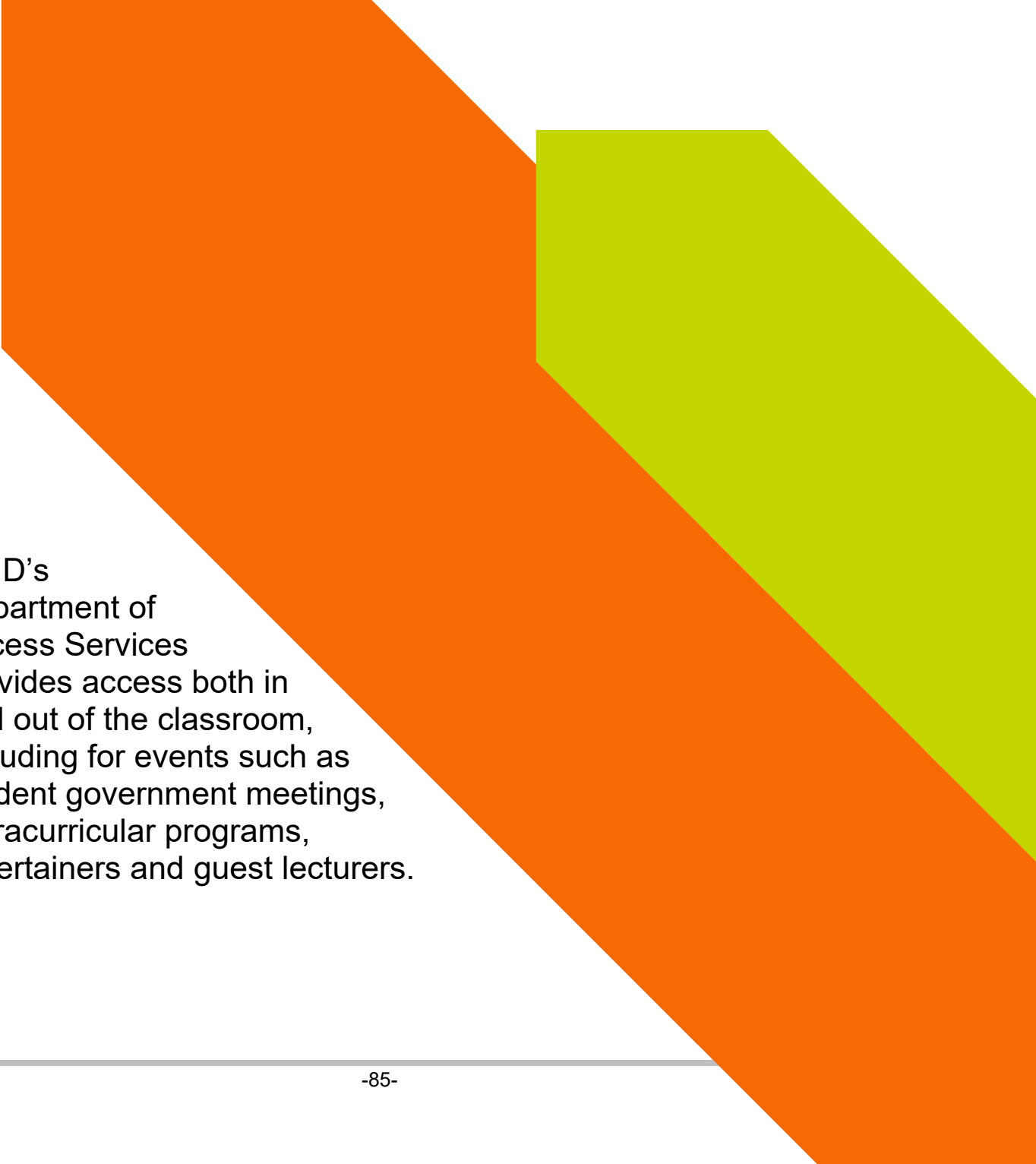
Support Services: Tutoring Hours

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.

	AY 2019-2020		
	Tutoring Hours	Class Sections Served	Total Student Registrations
College of Engineering Technology (CET)	*	298	455
College of Art and Design (CAD)	1,769	449	840
Saunders College of Business (SCB)	820*	235	565
Kate Gleason College of Engineering (KGCOE)	229*	196	261
College of Liberal Arts (CLA)	2,363	657	1,529
College of Health Sciences and Technology (CHST)	369	99	218
College of Science (COS)	5,260*	501	1,144
B. Thomas Golisano College of Computing and Information Sciences (GCCIS)	1,215*	300	588
School of Individualized Study (SOIS)	**	121	384
Total	**12,025**	**2,856**	**5,984**

---

*   Hours for CET are reported under SCB, KGCOE, COS and GCCIS.
**   Hours for SOIS are reported under the other colleges depending on the course type.

Student Access Services

NTID's Department of Access Services provides access both in and out of the classroom, including for events such as student government meetings, extracurricular programs, entertainers and guest lecturers.

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 in NTID-instructed classes when needed. Services are provided for non-academic events and activities throughout the RIT community, making RIT the world's most accessible university. Educational access services that NTID offers for deaf and hard-of-hearing students at RIT include:

- **Sign language interpreting** provided by 135 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 47 real-time captionists is trained in a computer-assisted system developed for transcribing in real time what teachers and students say in class. Increasing use of remotely provided captioning helps us meet growing demand. Real-time captioning is also provided for special events and out-of-class needs.
- **Classroom notetaking services** provided by more than 395 trained student notetakers whose 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 and on video streams of RIT events.
- **Assistive Listening Systems.** NTID loans FM systems to students in classrooms.

NTID works with each of RIT's colleges to provide support for implementing strategies that maximize access to services for deaf students 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 or used 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. Staff interpreters have built careers with specialized expertise across the diverse technologies of RIT's curriculum. This resource, paired with similar expertise with the newer real-time captioning service, offers NTID students unparalleled access to the full array of educational opportunities RIT provides.

Capitalizing on its staff's expertise, Access Services strengthened the onsite development of staff interpreters with expanded professional development efforts. The growth of a formalized apprentice program has already benefited 132 developing interpreters from 30 discrete training programs in transitioning from school to effective professional interpreting.

Student Access Services Highlights (continued)

The Randleman Program, which hires five novice interpreters of color into a two-year mentorship program, is the only program of its kind in postsecondary education. The expertise of NTID interpreters as specialists in post-secondary education is increasingly being shared through national outreach, including via the NTID Regional STEM Center by improving skills of interpreters in STEM disciplines. With increasing retirements of veteran staff, Access Services hired approximately 40% of its current staff of 182 access providers in recent years. This expansion of professional development supports their continuing skill development.

The impact of COVID-19 on Access Services is seen in the tables below, which detail the 18% decrease in interpreting hours and the 8% decrease in real-time captioning hours which resulted from the abrupt and complete change to online instruction in March 2020.
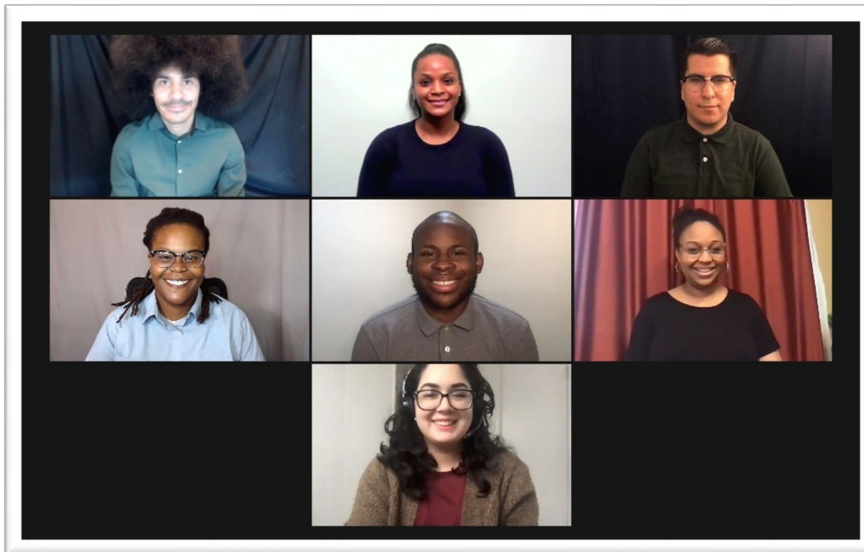
This year's Randleman Program protégés are, top row, left to right, San Lamar, Lindsey Totten, and Derek Gonzalez; middle row, Brittny Hogan and DeAndre Spurlock. Kristi Love '16, middle row, right, is program coordinator, and Karina Mendez Villanueva, bottom, is a former protégé and full-time staff member.

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 at other RIT colleges and NTID, when necessary.

RIT College	Interpreting Hours	Notetaking Hours	Real-Time Captioning Hours	Class Sections Served
College of Engineering Technology	4,593	3,005	1,727	203
Saunders College of Business	8,740	4,063	1,748	185
B. Thomas Golisano College of Computing and Information Sciences	9,233	4,797	2,202	229
Kate Gleason College of Engineering	2,043	2,586	1,645	116
College of Health Sciences and Technology	3,524	1,067	691	75
College of Art and Design	18,693	6,140	2,459	329
School of Individualized Study	1,066	273	383	39
College of Liberal Arts	13,877	9,819	5,034	419
College of Science	11,963	8,461	4,182	361
Student Affairs Division	2,290	91	151	127
Golisano Institute for Sustainability	264	41	0	2
NTID	6,290	132	279	136
FY 2020 Total Hours	**82,576**	**40,475**	**20,501**	**2,221**

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 2020	In-Class			Non-Class Activity		Administrative Activity		Overall Total	
	Hours	%*	Sections						
Fall	49,211	76%	816	10,886	17%	4,977	7%	65,074	100%
Spring	32,585	75%	708	6,657	15%	4,051	9%	43,293	100%
Summer	780	8%	31	5,491	56%	3,602	36%	9,873	100%
FY 2020 Total	**82,576**	**70%**	**1,555**	**23,034**	**19%**	**12,630**	**11%**	**118,240**	**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%
FY 2016 Total	112,110	75%	1,797	29,105	20%	7,831	5%	149,046	100%
FY 2017 Total	108,243	71%	1,644	33,854	22%	10,533	7%	152,630	100%
FY 2018 Total***	96,463	71%	1,634	30,051	22%	9,572	7%	136,036	100%
FY 2019 Total	100,270	69%	1,608	31,850	22%	13,164	9%	145,284	100%

*   Percentages are rounded to the nearest whole number.
**   Reduced number of sections and hours required in FY 2014 result from RIT's move to a semester-based academic calendar.
*** A revised class meeting schedule, only in AY 2017-2018, resulted in both reductions of demand from one fewer week of class each term and an undercount of hours, estimated at 8-10%, due to forced changes in counting methods. AY 2018-2019 has returned to NTID's previous standard method of counting hours.

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 2020	In-Class			Non-Class Activity		Administrative Activity		Overall Total	
	Hours	%*	Sections						
Fall	11,710	97%	371	284	2%	37	0%	12,031	100%
Spring	8,552	96%	343	298	3%	44	0%	8,894	100%
Summer	239	26%	15	379	41%	313	34%	931	100%
FY 2020 Total	**20,501**	**94%**	**729**	**961**	**4%**	**394**	**2%**	**21,856**	**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%
FY 2016 Total	23,081	96%	625	939	3%	315	1%	24,335	100%
FY 2017 Total	24,608	95%	642	800	3%	544	1%	25,952	100%
FY 2018 Total***	22,532	95%	642	846	4%	222	1%	23,600	100%
FY 2019 Total	23,154	89%	669	2,401	9%	423	2%	25,978	100%

*   Percentages are rounded to the nearest whole number.
**   Reduced number of sections and hours required in FY 2014 result from RIT's move to a semester-based academic calendar.
*** A revised class meeting schedule, only in AY 2017-2018, resulted in both reductions of demand from one fewer week of class each term and an undercount of hours, estimated at 8-10%, due to forced changes in counting methods. AY 2018-2019 has returned to NTID's previous standard method of counting hours.

Persistence, Graduation & Employment
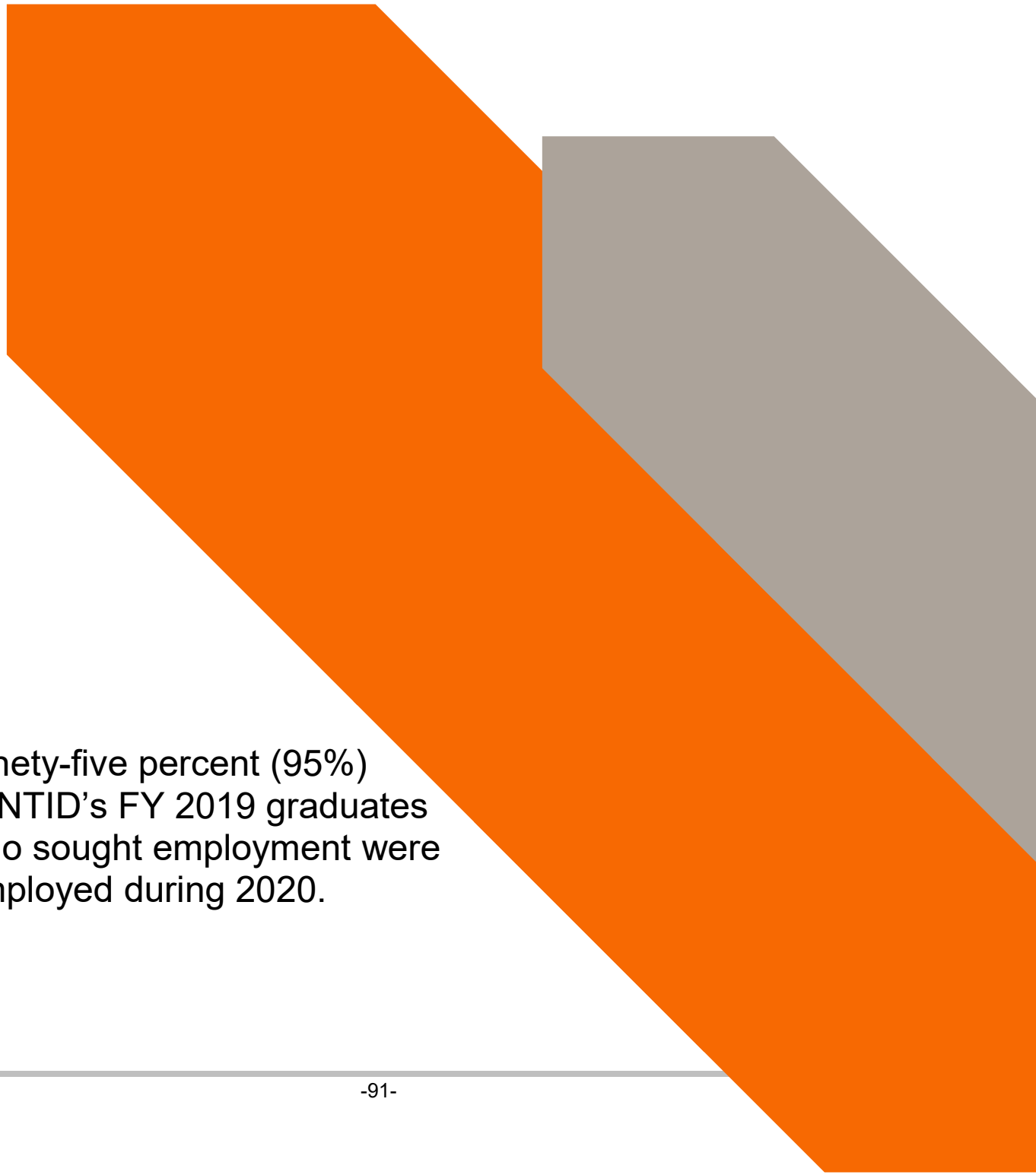
Ninety-five percent (95%) of NTID's FY 2019 graduates who sought employment were employed during 2020.

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% 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, 95% of graduates who chose to enter the labor force found employment that is commensurate with the level of their education and training. Figures for 2019 graduates show that 95%, or 116 of the 122 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 deaf and hard-of-hearing individuals 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 have been shown to correlate with graduation from college. Generally, students who withdraw before graduation 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, counselor/academic advisor and academic chairperson. NTID requires all first-year students to meet with their counselor/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 (VR) counselor, if receiving VR support, and plan of study for degree completion.

NTID is committed to addressing retention issues that impact students' persistence from first-year transition through graduation. Staff from different divisions within NTID's Student and Academic Services continue to focus on students' academic and social success through strategies that include offering the Deaf ALANA Promise (DAP) program for first-year African, Latino, and Native American (ALANA) students yearly, providing support for students through the financial aid and vocational rehabilitation process, 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 2019-2020, 319 students graduated. Of those graduates, 35% earned sub-baccalaureate degrees, 55% earned bachelor's degrees and 10% earned master's degrees. Thirty-seven 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 2008. Thus, the most recent three-year average is reported for the 609 students who were first-time, full-time, degree-seeking in the years 2017, 2018 and 2019. Data in the table below indicate that for the most recent three-year period, 72% 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
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%
2014, 2015, 2016	731	553	76%
2015, 2016, 2017	702	509	73%
2016, 2017, 2018	649	504	78%
2017, 2018, 2019	609	438	72%

---

* 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 and Graduation Rates for Deaf and Hard-of-Hearing Students

Nationally, four-year public and private colleges have a first-year persistence rate of 81%. This compares to an 85% 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 (44% for students admitted into sub-baccalaureate programs and 69% for those in bachelor-level programs) are much higher than public colleges with traditional or selective admission standards.

National and NTID Persistence and Graduation Rates		
Colleges	**First-Year Persistence Rate***	**Graduation Rate***
Two-Year Institutions	62%	33%
NTID Sub-Baccalaureate**	**66%**	**44%**
Four-Year Institutions	81%	62%
Other RIT Colleges (NTID Baccalaureate)**	**85%**	**69%**

Before the coronavirus pandemic, NTID students take over LBJ Hall to map out geologic time for an Earth and environmental science class.

---

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

Degrees Granted: FY 2016 to FY 2020

During the past five years, NTID has awarded an average of 311 degrees annually. The number for FY 2020 was 319. 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 2020, 118 of the 319 graduate and undergraduate degrees and certificates (37%) were granted to students from minority backgrounds.*

Six different degree levels are eligible to be awarded to NTID-supported students at 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 sciences; 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 nine 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 nine colleges. The credit requirements vary among programs, but a minimum of 30 semester credit hours at the graduate level is required.

Doctoral Degrees

6. A *Doctorate in Philosophy* (Ph.D.) degree is awarded to students who complete all courses, research, examinations, defense of dissertation and submission of a final accepted dissertation to graduate from a program within one of RIT's other eight colleges. The credit requirements vary among programs, but a minimum of three years of full-time study and 60 semester credit hours at the graduate level, with at least 18 credit hours of research, are required.

---

* Minority status is either unknown for 15 of these 319 graduates or the graduate has international visa status.
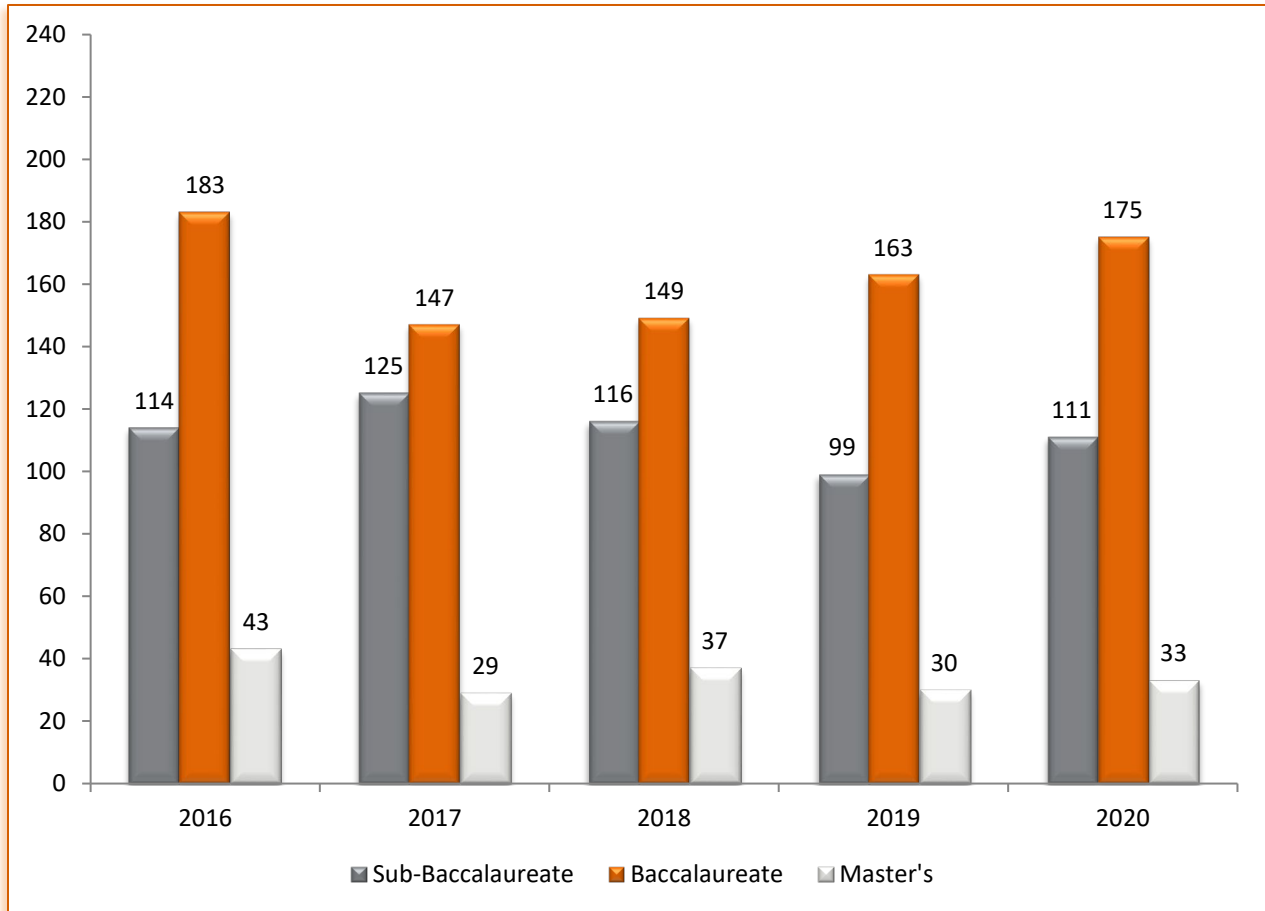
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Sub-Baccalaureate*	33.2%	41.5%	38.4%	33.9%	34.8%
Baccalaureate*	54.2%	48.9%	49.3%	55.8%	54.9%
Master's**	12.6%	9.6%	12.3%	10.3%	10.3%

*   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 and hearing graduates from the Master of Science program in Health Care Interpretation.

Graduates by Program Areas

Of all the degrees awarded to NTID students on the RIT campus in FY 2020, 48% were through programs offered by NTID and 52% through the other colleges of RIT. Historically, 63% of the degrees have been awarded from NTID and 37% 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 Inclusion section.

	FY 2020		CUMULATIVE* (FY 1970 – FY 2020)	
	Number of Graduates	Percentage of Graduates	Number of Graduates	Percentage of Graduates
NTID				
Career-Focused and Associate+Bachelor's Degrees	111	35%	4,568	49%
ASL-English Interpretation Bachelor	23	7%	406	4%
ASL-English Interpretation Associate	0	0%	465	5%
ASL-English Interpretation Certificate	0	0%	8	0%
Master of Science in Health Care Interpretation	8	3%	16	0%
Master of Science in Secondary Education	10	3%	407	4%
Subtotal NTID	**152**	**48%**	**5,870**	**63%**
Other Colleges of RIT**				
College of Engineering Technology	10	3%	666	7%
Saunders College of Business	27	8%	501	5%
B. Thomas Golisano College of Computing and Information Sciences	25	8%	373	4%
Golisano Institute for Sustainability	0	0%	5	0%
Kate Gleason College of Engineering	11	3%	120	1%
College of Health Sciences and Technology	9	3%	64	1%
College of Art and Design	30	9%	693	7%
College of Liberal Arts	24	8%	586	6%
College of Science	8	3%	212	2%
School of Individualized Study	23	7%	214	2%
Subtotal Other Colleges	**167**	**52%**	**3,434**	**37%**
Total	**319**	**100%**	**9,304**	**100%**

---

*   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.

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 2019*, 244** deaf and hard-of-hearing students graduated, and 122 chose to enter the labor force. One hundred and sixteen were employed, while six were unable to find employment. Therefore, 95.08% (116/122) found employment. NTID's employment rate over the past five years as calculated above is 95%. Of the 122 remaining graduates from 2019, 92 are continuing their education toward advanced degrees either at RIT or elsewhere, 10 are not looking for employment and 20 have an unknown status.

Degrees Granted

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Graduates	235	266	256	250	244
In the Labor Force	134	130	135	141	122
Employed	126	122	130	134	116
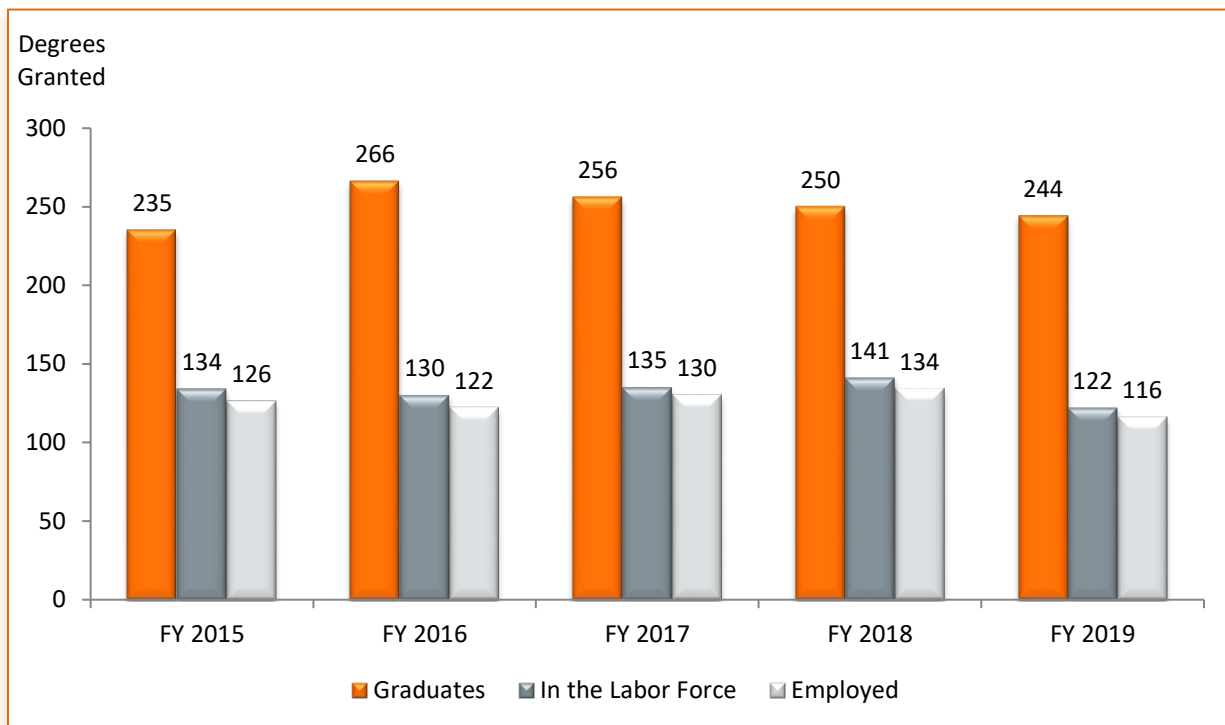
* As of the writing of this report, the employment information for 2020 is incomplete; therefore, NTID reports employment rates of 2019 graduates.
** Students are only counted once in the case of multiple degrees, and the total number of graduates does not include degrees in the ASL-English Interpretation program, the Master of Science program in Secondary Education, the Master of Science program in Health Care Interpretation 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) meets with students 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 provide job-seeking advice to students and graduates at different locations on campus and through email, text and videophone.

During FY 2020:

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

- The 19th annual NTID Career Fair was held in October 2019 with 48 employers attending and close to 300 students and alumni participating.

  - Employer panel for students: Representatives from Burns & McDonnell, Merck, Microsoft, PAHrtners, and U.S. Bureau of Reclamation provided an overview of their company/agency and discussed the types of training and skills they seek.

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

- Twenty-eight students took advantage of two resume review sessions.

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

- NCE consulted with 100 alumni for job search assistance and providing employment opportunities for our students and recent graduates.

- Seventy-seven students met with four employer representatives to gain a better understanding of various employment opportunities during spring 2020.

- Twenty-two participants attended a workshop called "Tips for Mastering Your Next Virtual Interviews" in June 2020.

Persistence, Graduation & Employment

Where Recent Graduates Are Working

In FY 2019, 36% of U.S. NTID graduates accepted jobs in their home states as their first jobs after graduation, while 28% found employment in the Rochester area and 36% 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 Employed Graduates				
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019*
Area					
Rochester	17%	13%	25%	29%	28%
Home State	55%	53%	42%	39%	36%
Other	28%	34%	33%	32%	36%
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Number of Graduates Employed	**126**	**122**	**130**	**134**	**116**

FY 2019 Graduate Employment by Region**
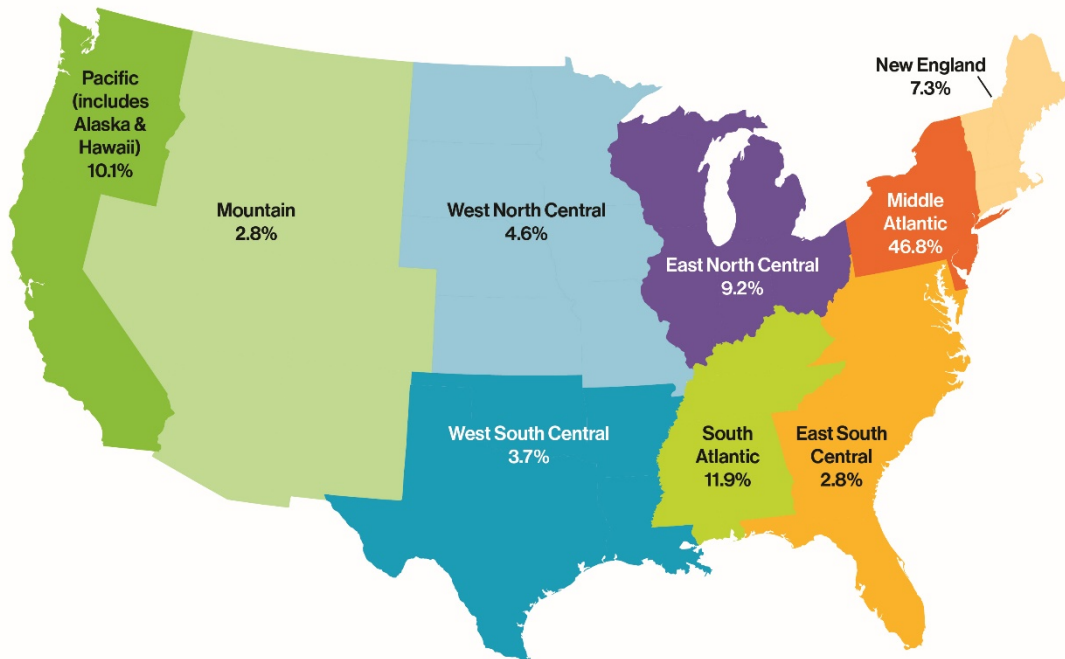
* Employment numbers for FY 2020 graduates are incomplete and will be reported next year.
** International and unknown locations are excluded.

Employment by Sector of the Economy

Of the last cohort of graduates tracked for employment, 77% have acquired jobs in business and industry, 16% in education/non-profit and 7% in government.

Sector	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019*
Business/Industry	75%	70%	77%	65%	77%
Education/Non-Profit	16%	20%	17%	15%	16%
Government	9%	10%	6%	20%	7%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

Trinity McFadden, a student in the criminal justice BS/MS program from Norwalk, Connecticut, spent last summer and fall semester working as a campaign intern for newly elected Colorado Sen. John Hickenlooper. She is interested in attending graduate school and pursuing a career in law, politics, or research.

---

* Employment numbers for FY 2020 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 2019 Annual Report*. This year shows moderate changes over many occupational categories.

Occupations of Working 2019 Graduates*	%	Sample Job Titles Held by 2019 Graduates within Category
Architecture and Engineering	14.9%	Support Engineer, Electrical Engineer I, Manufacturing Production Engineer
Computer and Mathematics	14.9%	Software Engineer, UX/UI Designer, Service Desk Support Administrator I
Arts, Design, Entertainment, Sports and Media	11.4%	Social Media Specialist, Videographer/Editor, Graphic Designer, Photographer
Transportation and Material Moving	10.5%	Shipping & Receiving Specialist, Package Handler, Fulfillment Associate
Business and Financial Operations	7.9%	Financial Planner, Staff Accountant, Equities Trading Technology Analyst
Office and Administrative Support	7.9%	Customer Service Representative, Operations Coordinator, Front Desk Agent
Community and Social Service	5.3%	Case Worker, Advocacy Specialist, Mental Health Support Specialist
Education, Training and Library	5.3%	Teaching Assistant, ASL Teacher, Lecturer
Food Preparation and Serving	3.5%	Server, Server Assistant/Busser
Management	3.5%	House Manager, Operations Manager
Production	3.5%	CNC Machinist, Machinist
Life, Physical and Social Science	2.6%	Laboratory Technician, Diagnostic Medical Sonographer
Sales and Related	2.6%	Sales & Service
Personal Care & Service	1.8%	Home Care Companion, Stylist
Protective Service	1.8%	Custom Protection Officer
Construction and Extraction	0.9%	Carpenter
Healthcare Practitioners & Technical Occupations	0.9%	Physician's Assistant
Legal	0.9%	Legislative Aide
Total	**100%**	

* Two of the FY 2019 employed graduates had either unknown job titles or titles too ambiguous for categorization.

Occupations of Alumni by Labor Categories

All NTID alumni graduating through summer 2018 were surveyed in 2019.

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 15 major categories.

In 2019, the top four labor categories remain consistent with the 2014 alumni survey. However the percentage of alumni working in Education, Training and Library increased by nearly 10% since the previous survey. Also, Healthcare Support is a newly included category for 2019, becoming one of the top 10 categories represented.

The next alumni survey will be completed in 2024.

Occupations of Working Alumni*	%	Sample Job Titles Held by Alumni within Category
Education, Training and Library	20.8%	Assistant Professor, Life Skills and Literacy Instructor, Paraprofessional, Special Education Teacher
Community and Social Services	15.5%	Family Service Program Coordinator, Lead Employment Specialist, Senior Vocational Rehabilitation Counselor
Business and Financial Operations	14.2%	Accountant, Conference Director, Financial Analyst, Human Resources Specialist
Computer and Mathematics	8.9%	Chief Technology Officer, Database Developer, Software Developer
Architecture and Engineering	8.9%	CNC Machinist, Principal Packaging Engineer, Senior Electrical Engineer
Office and Administrative Support	8.4%	Administrative Assistant, Operations Coordinator, Testing Coordinator
Arts, Design, Entertainment, Sports and Media	4.1%	Graphic Designer, Senior Art Director, Visual Information Specialist
Life, Physical and Social Sciences	2.7%	Clinical Evaluator, Environmental Protection Specialist, Microbiology Laboratory Technician
Healthcare Support	2.7%	Clinical Trials Laboratory Assistant, Community Resources Professional, Optical Lab Technician, Specimen Technician
Production	2.3%	Manufacturing Technician, Tool and Dye Maker
Food Preparation and Serving	2.1%	Food Service Worker, Prep Cook
Sales	2.1%	District Manager, Retail Associate, Senior Client Director
Personal Care and Services	1.4%	Personal Care Assistant, Residential Care Worker
Transportation and Material Moving	1.4%	Handling and Shipping Staff, Postal Worker, Sort Associate
Healthcare Practitioner	1.1%	Deaf Health Specialist, Pathology Staff

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

Persistence, Graduation & Employment

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
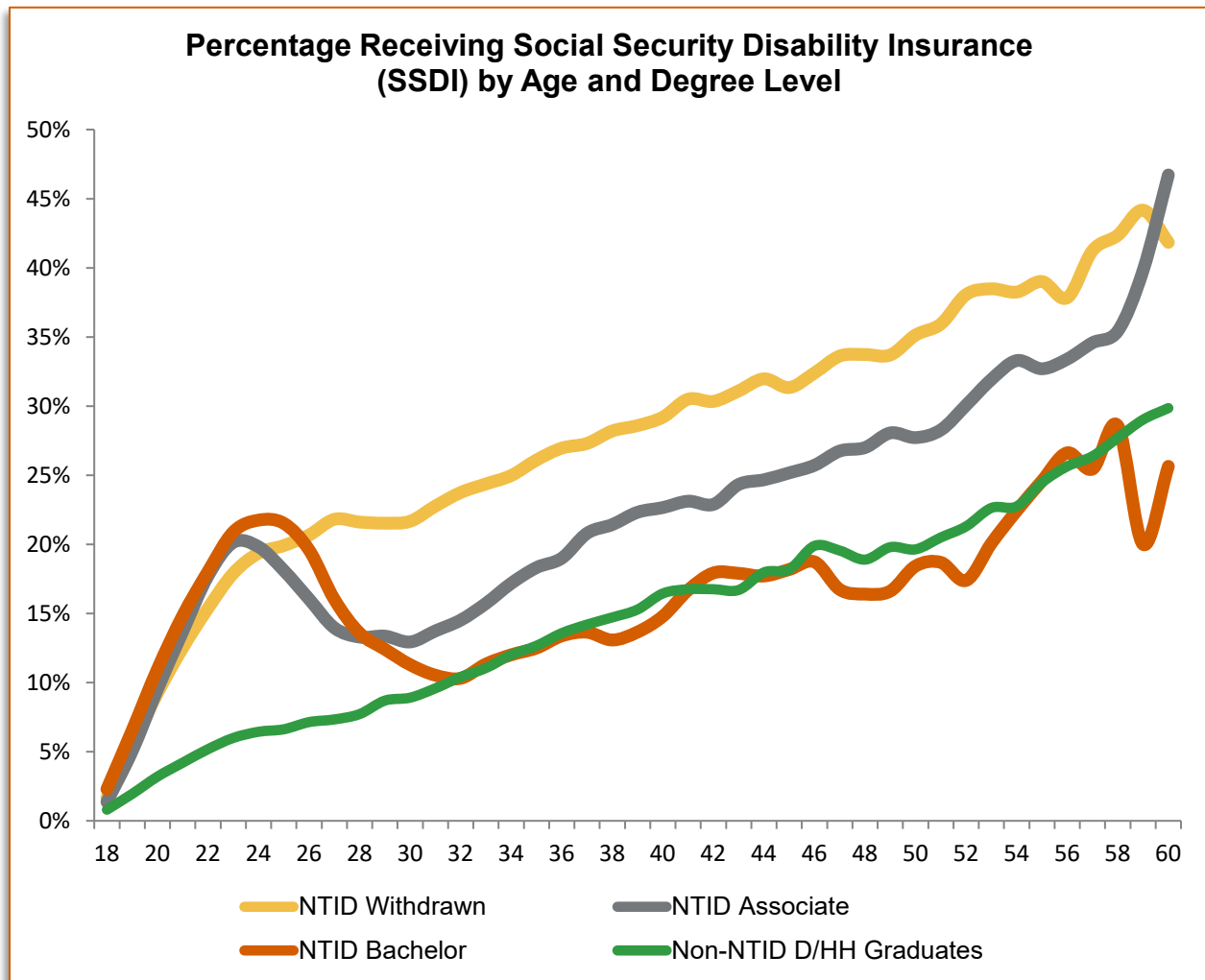- NTID Bachelor
- Non-NTID D/HH Graduates

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).

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

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

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%, as compared to 8% for deaf and hard-of-hearing graduates from other institutions of higher education.

Percentage Receiving Supplemental Security Income (SSI) 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).

Effect of College Graduation on Reduction in SSI and SSDI Payments (continued)
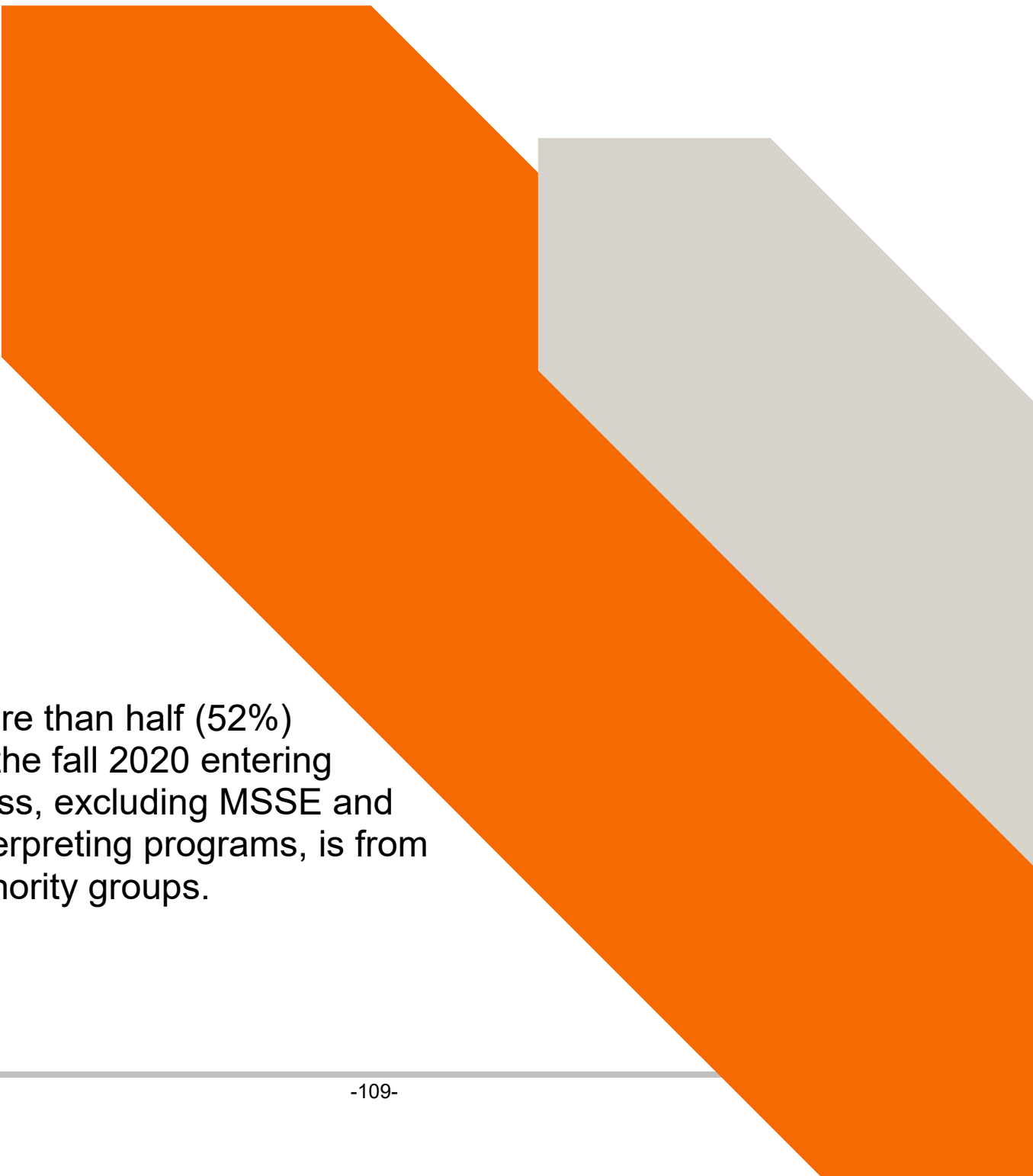
While a smaller percentage of deaf and hard-of-hearing students collect SSDI in their collegiate years, by age 50, 18% of NTID deaf and hard-of-hearing bachelor's degree graduates collect SSDI, as compared with 20% of deaf and hard-of-hearing graduates from other institutions of higher education. As 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 Inclusion

More than half (52%) of the fall 2020 entering class, excluding MSSE and interpreting programs, is from minority groups.

Diversity and Inclusion Highlights

Students

As of fall 2020, the number of U.S. deaf and hard-of-hearing minority students at NTID is 387*, one of the larger numbers in recent history. FY 2020 highlights follow:

- Fifty-two percent (52%) of the deaf and hard-of-hearing fall 2020 entering class is from minority groups.* Forty-eight percent (48%) of the total NTID fall 2020 entering class is from minority groups. The percentage in the total deaf and hard-of-hearing enrolled student body is 41%, 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 82 employees from ethnic minority populations, 34 are Black or African American, 29 are Hispanic/Latino and 19 are other minorities.

Of 561** total number of employees, 147 are deaf or hard of hearing.

Of the 210 employees who are deaf or hard of hearing or are members of a minority group, 145 are in executive, faculty or exempt positions. Note that some individuals count in more than one category.

NTID's commitment to diversity and inclusion 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 diverse categories. In the past year, 60% of all hires were either minority individuals or individuals who are deaf or hard of hearing.

NTID's fall 2020 virtual performance of "Spoon River Anthology" featured a diverse cast of almost 150 RIT students, faculty, staff and alumni portraying 72 characters who tell individual stories. Each character was portrayed simultaneously by two actors – one who uses sign language and one who uses a spoken voice.

---

* 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 561 employees, 547 are covered by non-research/grant funds.

Diversity and Inclusion 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.

NTID recognizes the importance of valuing diversity as it prepares deaf and hard-of-hearing students to enter a global community. Diversity and inclusion stimulate intellectual engagement, critical thinking, and problem-solving skills. Learning and socializing in culturally diverse environments with individuals from all backgrounds can lead to increased innovation and collaboration. Exposure to varying leadership styles from faculty, staff, administrators, and the community—particularly when someone is from a historically underrepresented community—provides lasting benefits.

With continuing shifts in national and international demographics, students need to 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.

Even during this unprecedented time, diversity continues to be a priority in higher education. The events of the year 2020, amid a global pandemic, highlighted intersecting societal challenges that include disparities in healthcare, systemic racial inequality and racial injustice. These challenges were further exacerbated for deaf and hard-of-hearing individuals—including RIT/NTID students—by impacts stemming from not having full access to information. The mandate to wear masks while helping to prevent the spread also came with sacrifices in access to communication. In addition to information overload in general regarding COVID-19, the rapidly-shifting course of events sometimes overwhelmed planning. As we continue to monitor the impact COVID-19 and the pandemic have on the NTID community, NTID is dedicated and committed to ensuring a sense of belonging and inclusion. Working continuously on concepts that promote inclusion is critical for our community during these challenging times.

- June 2020: President Buckley announced that the NTID Administrative Council will draft a plan with action steps and changes that will address systemic bias and racism and will enhance diversity and inclusion in specific and measurable ways at NTID.

- June 30, 2020: Pamela Christopher '90, '93, '02, interim director of Diversity & Inclusion, responsible for all NTID issues relating to diversity and inclusion and monitoring NTID's progress on RIT-wide and NTID-specific initiatives, completed her term as interim director. Christopher continues her efforts partnering with RIT Division of Diversity and Inclusion with all diversity-related events. NTID appreciates and is grateful for her service and for securing a full-time staff assistant, Christan Monin, for the NTID Office of Diversity and Inclusion.

- July 1, 2020: Dr. Alesia Allen '04, named in May 2020, became NTID's second director of Diversity and Inclusion. Dr. Allen is an alumna with more than 15 years of professional, clinical, and teaching experience. Prior to taking on this role, she served as a visiting assistant professor at NTID's Department of Liberal Studies, teaching a variety of courses in psychology as well as mentoring students. Dr. Allen's diversity and inclusion work prior to RIT included working as an

intergroup diversity dialogue facilitator that focused on helping undergraduate students explore divisions among people on the basis of racial and ethnic identity, project manager for Gallaudet University's Commission on Ethnic Minority Recruitment, Retention, and Training, and serving on Gallaudet's Diversity Team.

- 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. Dr. Charlotte Thoms, NTID faculty in the Business Studies department and former NTID director of diversity recruitment and retention, works regularly with RIT's Office of Faculty Recruitment and Retention to attend recruiting events, visit Historically Black Colleges and Universities (HBCUs) to recruit diverse faculty, and support the retention of diverse faculty at NTID.

- 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 director of diversity & inclusion. The group includes approximately 40 members.

- The Randleman Program is a two-year preceptorship that focuses on intersectionality and inclusion. It aims to equip interpreters of color that have recently entered the field for the demands of interpreting in a postsecondary environment, while simultaneously increasing diversity representation. Protégés are assigned a preceptor and an individually designed curriculum. Protégés work 40 hours a week, which includes hours of interpreting, language development, professional development with an emphasis on diversity and inclusion, and leadership development activities.

In the summer of 2020, NTID appointed, from right to left, Alesia Allen '04, assistant vice president for diversity and inclusion; Joseph Hill, assistant dean for ALANA faculty recruitment and retention; Thomastine "Tommie" Sarchet-Maher '03, '09, assistant dean of ALANA outreach, access, and success; and Peter Hauser, assistant dean of research mentoring.

.

Admissions Activity by Ethnicity

Fifty-seven percent (336) of this year's 593 deaf and hard-of-hearing applicants were students from minority backgrounds. The FY 2021 entering class of deaf and hard-of-hearing students included 133 minority students, who represent 52% of the newly admitted deaf and hard-of-hearing students.

	FY 2017*	%	FY 2018*	%	FY 2019*	%	FY 2020*	%	FY 2021*	%
Total Applicants	771		638		533		520		593	
Non-Minority	308	51%	238	51%	213	45%	241	47%	252	43%
Minority	291	49%	229	49%	256	55%	271	53%	336	57%
Acceptances	432		435		396		396		449	
Non-Minority	235	57%	226	56%	177	48%	201	52%	206	46%
Minority	179	43%	181	44%	192	52%	188	48%	240	54%
Registrations	305		289		259		247		262	
Non-Minority	171	59%	153	57%	126	52%	131	54%	124	48%
Minority	118	41%	117	43%	114	48%	111	46%	133	52%

Students wear masks as they leave their dormitories and head to class.

---

* 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.

Diversity and Inclusion

Ethnicity of Entering Students

The FY 2021 entering class included 154 minority students, who represent 47% of the entire incoming class. The FY 2020 entering class of deaf and hard-of-hearing students included 133 minority students, who represent 52% of the newly admitted deaf and hard-of-hearing students.

	FY 2017	%	FY 2018	%	FY 2019	%	FY 2020	%	FY 2021	%
Deaf and Hard-of-Hearing Undergrad and Grad Students										
American Indian or Alaska Native	5	1.7%	1	0.4%	0	0.0%	0	0.0%	0	0.0%
Asian	27	9.3%	25	9.3%	27	11.3%	31	12.8%	32	12.5%
Black or African American	22	7.6%	26	9.6%	31	12.9%	21	8.7%	33	12.9%
Hispanic/Latino	53	18.3%	50	18.5%	46	19.2%	44	18.2%	52	20.3%
Native Hawaiian or Other Pacific Islander	1	0.3%	0	0.0%	0	0.0%	0	0.0%	1	0.4%
White	171	59.2%	153	56.7%	126	52.5%	131	54.1%	123	48.1%
Two or More Races	10	3.5%	15	5.6%	10	4.2%	11	4.5%	15	5.9%
Non-Resident Alien (International)	11		11		15		4		6	
Unknown Race/Ethnicity	5		8		4		1		0	
Subtotal Minority Deaf and Hard-of-Hearing Undergrad and Grad Students	**118**	**40.8%**	**117**	**43.3%**	**114**	**47.5%**	**111**	**45.8%**	**133**	**52.0%**
Subtotal Deaf and Hard-of-Hearing Undergrad and Grad Students	**305**		**289**		**259**		**247**		**262**	

	FY 2017	Percent Minority	FY 2018	Percent Minority	FY 2019	Percent Minority	FY 2020	Percent Minority	FY 2021	Percent Minority
Other Enrollments										
ASL-English Interpretation	46	8.9%	42	22.5%	50	16.3%	51	15.7%	48	29.2%
Master of Science in Secondary Education	17	33.3%	5	0%	7	33.3%	8	0%	21	33.3%
Total Minority Enrollments	**126**		**126**		**124**		**120**		**154**	
Total Enrollments	**368**		**336**		**316**		**306**		**331**	
Overall Percent Minority		**36.4%**		**40.3%**		**42.0%**		**39.9%**		**47.4%**

Ethnicity of Enrolled Students

Minority enrollment at NTID has steadily increased from 8% in FY 1988 to 41.2% in FY 2021, more than five times what it was more than 30 years ago.

Until FY 2000 the number of international students was limited to 10% 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%. 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 2017	%	FY 2018	%	FY 2019	%	FY 2020	%	FY 2021	%
Deaf and Hard-of-Hearing Undergrad and Grad Students										
American Indian or Alaska Native	5	0.5%	7	0.7%	4	0.4%	3	0.3%	2	0.2%
Asian	117	11.6%	114	11.5%	117	12.6%	109	12.4%	115	13.6%
Black or African American	103	10.2%	99	10.0%	91	9.8%	84	9.6%	88	10.4%
Hispanic/Latino	151	15.0%	144	14.5%	142	15.4%	143	16.3%	143	16.9%
Native Hawaiian or Other Pacific Islander	2	0.2%	2	0.2%	1	0.1%	1	0.1%	2	0.2%
White	598	59.2%	589	59.4%	539	58.3%	508	57.9%	458	54.2%
Two or More Races	34	3.4%	37	3.7%	31	3.4%	30	3.4%	37	4.4%
Non-Resident Alien (International)	39		43		49		38		31	
Unknown Race/Ethnicity	73		46		31		27		10	
Subtotal Minority Deaf and Hard-of-Hearing Undergrad and Grad Students	**412**	**40.8%**	**403**	**40.6%**	**386**	**41.7%**	**370**	**42.1%**	**387**	**45.8%**
Subtotal Deaf and Hard-of-Hearing Undergrad and Grad Students	**1,122**		**1,081**		**1,005**		**943**		**886**	

	FY 2017	Percent Minority	FY 2018	Percent Minority	FY 2019	Percent Minority	FY 2020	Percent Minority	FY 2021	Percent Minority
Other Enrollments										
ASL-English Interpretation	140	14.5%	147	15.5%	148	17.9%	155	18.1%	170	22.5%
Master of Science in Secondary Education	30	30.4%	19	23.1%	17	11.8%	22	10.0%	34	23.5%
Master of Science in Health Care Interpretation	8	37.5%	15	21.4%	12	20.0%	9	22.9%	11	27.3%
Total Minority Enrollments	**441**		**431**		**416**		**401**		**436**	
Total Enrollments	**1,300**		**1,262**		**1,182**		**1,129**		**1,101**	
Overall Percent Minority		**37.6%**		**37.1%**		**38.2%**		**38.0%**		**41.2%**

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*
Three-Year Moving Averages

Fall 2017-2019 Cohort	Black or African American	Asian	Hispanic/Latino	Non-Resident Alien (International)	White
Cohort Count	68	67	117	16	293
Persisted to Second Year	41	56	77	11	220
First to Second Year Persistence Rate	61%	84%	66%	70%	75%

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

Fall 2012-2014 Cohort	Black or African American	Asian	Hispanic/Latino	Non-Resident Alien (International)	White
Cohort Count	53	57	79	13	328
Graduated Within Six Years	26	48	33	4	178
Six-Year Graduation Rate	49%	84%	43%	32%	54%

---

* 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 for those 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 2020 Number of Graduates		
	Minority	Non-Minority	Total
NTID			
Career-Focused and Associate+Bachelor's Degrees	49	62	111
ASL-English Interpretation	2	21	23
Master of Science in Secondary Education	3	7	10
Master in Health Care Interpretation	2	6	8
Other Colleges of RIT *			
College of Engineering Technology	1	9	10
Saunders College of Business	7	20	27
B. Thomas Golisano College of Computing and Information Sciences	12	13	25
Golisano Institute for Sustainability	0	0	0
Kate Gleason College of Engineering	4	7	11
College of Health Sciences and Technology	4	5	9
College of Art and Design	14	16	30
College of Liberal Arts	8	16	24
College of Science	1	7	8
School of Individualized Study	11	12	23
Total	**118**	**201**	**319**

---

* Includes bachelor's and master's degrees granted by the other colleges of RIT, as well as sub-baccalaureate degrees.

Diversity 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 2020

	Total Employees	Female	Black or African American	Hispanic /Latino	Other Racial/ Ethnic Categories*	Deaf and Hard of Hearing
Faculty**	151	77	9	6	6	73
Percent		51%	6%	4%	4%	48%
Exempt Staff**	125	72	13	6	3	43
Percent		58%	10%	5%	2%	34%
Executive/ Administrative Manager**	48	19	2	0	0	19
Percent		40%	4%	0%	0%	40%
Non-Exempt Staff						
Real-Time Captionist	52	42	0	2	0	0
Percent		81%	0%	4%	0%	0%
Interpreter	136	117	6	11	6	1
Percent		86%	4%	8%	5%	0.7%
Technical/ Clerical	97	74	6	4	4	30
Percent		76%	6%	4%	4%	31%
Total	**561*****	**382**	**34**	**29**	**19**	**147**
Percent		**68%**	**6%**	**5%**	**3%**	**26%**

---

*   Other Racial/Ethnic Categories includes American Indian & Alaskan Native, Asian and two or more races.

**   Of the 48 executive/administrative managers, 18 are included on the faculty line, and 30 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 in the faculty or exempt staff lines.

***   Of the 561 employees, 547 are covered by non-research/grant funds.

Diversity 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. Individuals may be counted in more than one category.

FY 2020

	Number of NTID Positions Posted	Total Applicants	Number of Applicants by Category					
			Female	Black or African American	Hispanic/ Latino	Other Racial /Ethnic Categories*	White Male	Unknown
Faculty	17	103	56	6	2	16	23	13
Exempt Staff	8	199	110	7	9	28	68	2
Non-Exempt Staff**	43	670	442	117	86	112	111	30
Total	**68**	**972**	**608**	**130**	**97**	**156**	**202**	**45**

---

* Other Racial/Ethnic Categories includes American Indian & Alaskan Native, Asian and two or more races.
** Includes real-time captionists, interpreters and technical and clerical positions.

Diversity and Inclusion

Diversity Report: Faculty and Staff Hiring Results

During FY 2020, individuals from an ethnic minority
or who were deaf or hard of hearing totaled 31% of
all new hires and women totaled 54% of all new hires.
Individuals may appear in more than one category.

FY 2020

	Total New Employees	Female	Black or African American	Hispanic /Latino	Other Racial /Ethnic Categories*	Deaf and Hard of Hearing
Faculty	9	5	1	0	1	3
		56%	11%	0%	11%	33%
Exempt Staff	4	2	0	0	1	2
		50%	0%	0%	25%	50%
Non-Exempt Staff						
Real-Time Captionist	2	0	0	0	0	0
		0%	0%	0%	0%	0%
Interpreter	6	2	3	2	1	0
		34%	50%	34%	17%	0%
Technical/Clerical	13	7	1	0	2	4
		54%	7%	0%	15%	31%
Total	**34**	**16**	**5**	**2**	**5**	**9**
		47%	15%	6%	15%	26%

---

* Other Racial/Ethnic Categories includes American Indian & Alaskan Native, Asian and two or more races.

Diversity Report: Faculty and Staff Termination Results

During FY 2020, 28% of terminations were individuals from ethnic minorities and 68% were women. In the chart below, individuals may appear in more than one category.
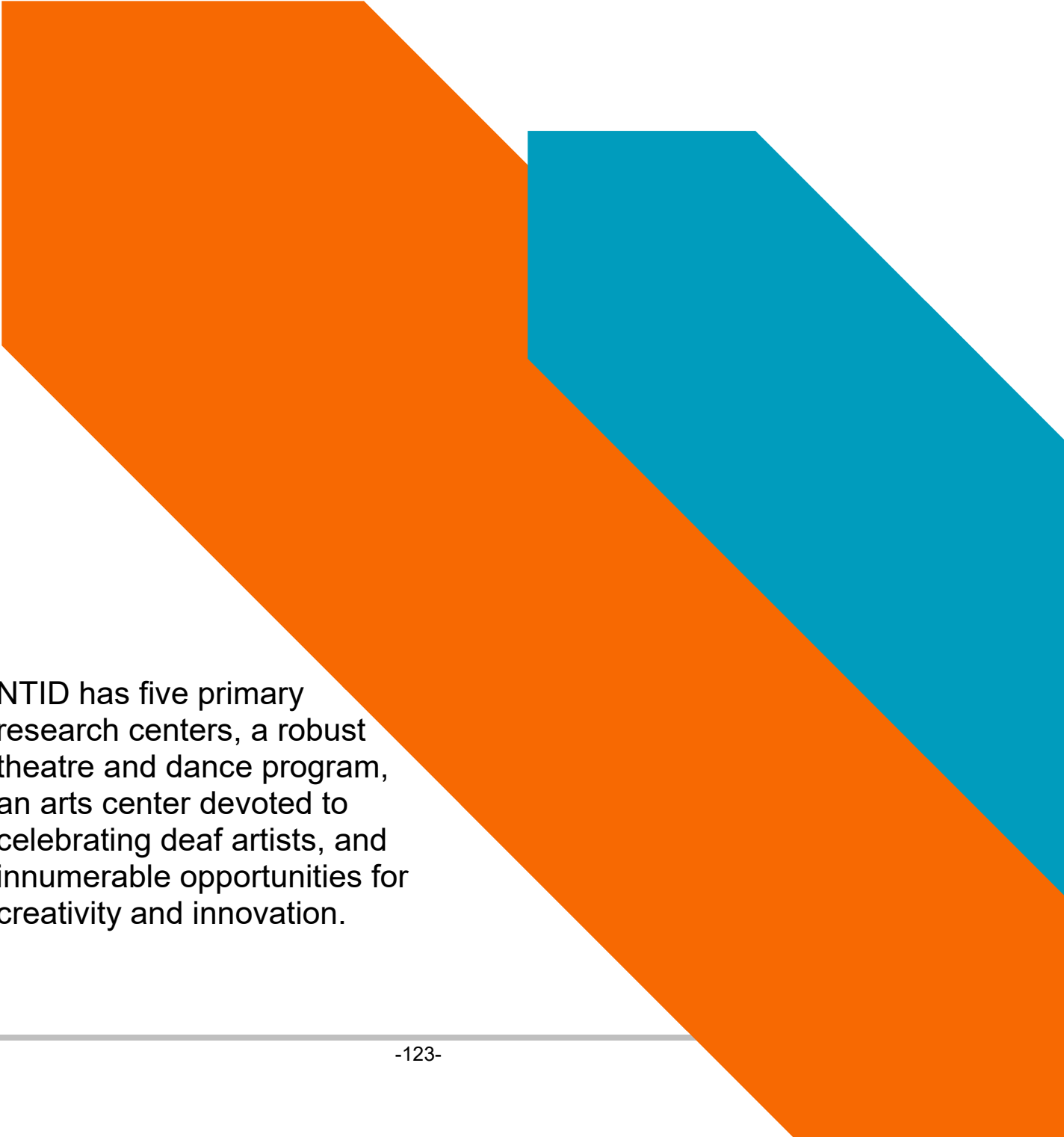
FY 2020

	Total Terminated Employees	Female	Black or African American	Hispanic/Latino	Other Racial /Ethnic Categories*	Deaf and Hard of Hearing
Faculty	13	7	3	0	1	3
		54%	23%	0%	8%	23%
Exempt Staff	8	3	0	1	2	4
		38%	0%	13%	25%	50%
Non-Exempt Staff***	42	33	2	5	0	4
		79%	6%	16%	0%	10%
Total	**63**	**43**	**5**	**6**	**3**	**11**
		68%	10%	12%	6%	17%

---

*   Other Racial/Ethnic Categories includes American Indian & Alaskan Native, Asian and two or more races.
**   Includes technical and clerical positions, real-time captionists and interpreters.

Diversity and Inclusion

Research, Innovation & Creativity

NTID has five primary research centers, a robust theatre and dance program, an arts center devoted to celebrating deaf artists, and innumerable opportunities for creativity and innovation.

Research

NTID Research Overview

NTID determines topics for research projects on the basis of priorities derived from both internal and external sources, including the U.S. Department of Education, the NTID National Advisory Group, the National Science Foundation, and the National Institutes of Health. NTID also receives public input on its research priorities from stakeholder organizations and individuals via professional meetings, email, website comments and social media. NTID faculty also conduct research on special institutional projects established in response to immediate needs identified by the NTID administrative team as well as long- and short-term projects related to performance indicators established by the U.S. Department of Education. In addition to strategic research and special projects–largely focused on people who are deaf or hard-of-hearing and the Deaf experience–NTID supports the research of scholars teaching in any NTID academic area, including mathematics, science, linguistics, sign language interpreting, business and other disciplines. This research activity creates new knowledge that is passed along to NTID students and provides opportunities for them to participate and acquire research skills in a broad array of academic fields.

Office of the Associate Dean of Research (OADR)

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

The mission of the OADR is to increase the number of funded projects in the college and to support and sustain the research enterprise. The office is responsible for facilitating NTID efforts in evidence-based research relevant to deaf and hard-of-hearing individuals, including teaching and learning, communication and language, employment success, access technology, deaf health and other topics. In addition to providing leadership for strategic research in the college, the office supports all research and grant-related activity by members of the faculty and staff and plays a key role in expanding NTID's funding portfolio. The office continued to focus on three major priorities in FY 2020: providing fiscal and administrative support for research projects, professional development for principal investigators (PIs), and publicizing the research accomplishments of faculty and staff, as well as managing the impact of the coronavirus pandemic.

a. **Support for researchers and research initiatives**

The OADR's Scholarship Portfolio Development Initiative (SPDI) is a program where intramural grants are awarded to meritorious applicants proposing innovative research, outreach initiatives, or other types of scholarly projects. The program previously supported only early-stage principal investigators and soft-funded research faculty. In FY 2020, eligibility was expanded to include all NTID tenure-track faculty (pre- or post-tenure) and NTID staff who have served as principal investigators (PIs) on current or prior extramural awards. This expanded eligibility is designed to encourage applications from seasoned researchers who will utilize SPDI funds to conduct pilot studies that may enhance the viability of subsequent extramural grant applications. In FY 2020, SPDI offered intramural funds of up to $12,000 for one- or two-year projects. Applicants also could request an additional $3,000 to support collaborators from other colleges and institutions, another priority of the program. In FY 2020, four new SPDI proposals were funded for a total of $54,984.

Applying Reconfiguration to Power Domination on Graphs
2/1/2021–1/31/2023 $14,984
PI: Bonnie Jacob
The goal of this project is to establish the theory of reconfiguration applied to power domination on graphs.

Exploring the Relationship between Shadowing Technique and L2/M2 ASL Learners' Mirror Neuron System
9/1/2020–8/31/2021 $13,000
PI: Jason Listman, Co-PI: Geo Kartheiser; Mentor: Matthew Dye

The goal of this project is to examine the relationship between the action observation network (AON) and sign language perception.

A Novel Observational Constraint on a Critical Phase of Stellar Evolution
9/1/2020–8/31/2021 $12,000
PI: Jason Nordhaus
The goal of this project is to gather data to demonstrate a new technique to constrain one of the most uncertain and critical phases of stellar evolution.

Reproductive Health Experiences of Deaf Women: A Mixed Methods Study
9/1/2020–8/31/2022 $15,000
PI: Tiffany Panko, Co-PI: Corrine Occhino; Mentor: Jessica Cuculick
The goal of this project is to gather national data on the reproductive behaviors and healthcare system use of deaf and hard-of-hearing women as well as qualitative data through socio-linguistics interviews.

Most SPDI start dates have been pushed forward due to RIT policy restrictions related to the coronavirus pandemic.

Start-Up Packages (SUPs) are accounts established for new tenure-track faculty, the goal of which is to facilitate research and other scholarly activities in the early years of their employment at NTID. SUPs are funded by the OADR. The amount and purpose of SUP funds is negotiated between the Associate Dean of Research and the individual faculty member. Two new SUPs were established this year for recently hired faculty, bringing the total of currently active SUPs to nine. Examples of common SUP expenditures include faculty summer salary, travel to attend and present at conferences, hiring student research assistants, human subject fees, consultant fees, and research equipment.

A new pilot program in which professional statisticians from the College of Science (COS) offer consultation services to NTID faculty was launched in FY 2020. This program addresses an ongoing need for professional statistical work to strengthen grant proposals and research reports. The OADR contracted with COS statisticians to fund the program and its services, which range from pre-proposal consultation to assistance with data analysis. The OADR is launching a similar program in FY 2021 to offer NTID faculty professional consultation to address program evaluation plans and procedures – another area where grant proposals often require professional input.

It is quite common for researchers to approach the Associate Dean for Research, seeking funding for various purchases that are not included in grant or academic department budgets. Such research-related purchases, which are almost always approved, include books, equipment, human subject fees, open-access journal fees, captioning/translation costs, travel funds, and more.

The OADR closely monitors communications from relevant research funding bodies, such as the National Science Foundation (NSF), the National Institutes of Health (NIH), and a number of foundations and other organizations. The OADR regularly analyzes these communications to determine those that are most relevant to our faculty and shares that information with the faculty as a whole or, sometimes, specific faculty members whose interests and activities are particularly suited to information from funders. Not only are professional development activities sometimes offered by these funding agencies, learning about funding priorities, policies, etc., is another aspect of how the OADR facilitates faculty professional development.

b. Professional development

In FY 2020, OADR successfully completed its second year of *PI Prime Time,* a professional development program for individuals who want to compete more effectively for funding or improve their skills for managing grant-funded projects. The *PI Prime Time* planning committee consists of the OADR team, RIT sponsored research administrators who serve NTID and three NTID faculty advisors. The committee is continuously refining their workshops based on feedback from evaluations. A set of four workshops were offered during the fall 2019 semester and three workshops were offered during the spring 2020 semester.

Tenure-track faculty often use their SUP funds (see above) for professional development activities, primarily attending and presenting at conferences in their areas of academic concentration. The OADR also provides funding for professional development outside the SUP process, including for faculty who do not have SUPs or for whom their SUP accounts have expired after the five-year SUP spending limit. This fiscal year, the OADR funded sign language interpreter services for some conference attendees and often co-funds faculty groups attending high-priority conferences (e.g., one on quantitative research methods held last year). In FY 2020, the Associate Dean of Research organized, funded, and led a trip for three newly hired faculty to attend the Council on Undergraduate Research (CUR) "Dialogues" conference, where presentations and individual meetings with program officials from major funders takes place (e.g., NSF, NIH, the U.S. Department of Education and many more). This trip usually takes place annually, although trips to major funding agencies (e.g., NSF, NIH) or pertinent other conferences relevant to professional development for researchers also have been led by the OADR.

The OADR also emphasizes the importance of professional development for its staff. In FY 2020, OADR staff attended conferences hosted by the Society of Research Administrators, the National Council of University Administrators, and the American Deafness and Rehabilitation Association.

c. Publicizing the accomplishments of NTID personnel working on funded projects

OADR regularly contributes content to the monthly newsletter from NTID's Office of the President. This typically includes news of recently obtained grants by NTID faculty, awards, or other accomplishments worthy of attention. The OADR hosts a Sponsored Project Awards program every two years (upcoming in FY 2021) that recognizes NTID faculty, staff and students, as well as its partners outside the college, for accomplishments supported by intramural or extramural funding sources. Awards are presented in the following categories: Student Researcher, Student Research Mentor, Up-and-Coming Principal Investigator (PI), X-Factor (presented to an individual who is not a PI or Co-PI but whose work significantly contributes to team success), Collaborator, Co-PI, PI, and a Partner award presented to a valued colleague from another college or institution who has made significant contributions to sponsored projects at NTID.

d. Impact of the coronavirus pandemic

The OADR team (comprising five full-time permanent staff members) began working from home full-time in March; OADR's focus on faculty rather than students allows this operational change to occur, and has allowed OADR to contribute to the desired 50% reduction in personnel capacity on campus.

Additionally, various procedural suspensions or other changes (e.g., denials or delays in purchase approvals affecting summer salary contracts and contractor hires) affected some of the work done by OADR. Faculty who were awarded research funds in our annual intramural grant competition also were affected by those procedural changes. Additionally, staff working from home were affected by various technical considerations (e.g., lack of printing capabilities or high-speed Internet access).

OADR's operations were further impacted by new reporting requirements imposed by both RIT and the State of New York in order to allow re-opening of research labs, among other things.

As an unexpected positive note, OADR's budget benefited from the reduction or elimination of traditionally-approved expenses, ranging from the aforementioned contractors to travel expenses and costs associated with formal gatherings. Nevertheless, OADR saw its activities—and those of the faculty it supports—considerably curtailed by the necessities of the pandemic response, and is continuing to seek various means of accomplishing its necessary work while abiding by COVID-19 protocols.

RESEARCH CENTERS

This section summarizes the activities and accomplishments of each of the NTID Research Centers during FY 2020. When there is collaboration among several research centers, the activity is described in connection with the research center leading the effort.

NTID Sensory, Perceptual and Cognitive Ecology (SPaCE) Center

Matthew W. G. Dye, Ph.D., director

The research mission of the NTID SPaCE Center is to study the sensory, perceptual and cognitive capabilities of deaf and hard-of-hearing individuals, and to explore how those individuals create deaf-friendly environments within which they can most effectively function. In FY 2020, SPaCE Center faculty and staff published eight articles and book chapters, and presented at both domestic and international conferences.

SPaCE Center leadership and staff also promote transparent open-science practices in an accessible environment that allows staff and students to achieve their learning goals and desired employment outcomes. In AY 2019-2020, Ashley Gleason, undergraduate research assistant, was awarded a $5,000 Gilman Scholarship for a Society, Culture, & Gender summer study abroad program in Amsterdam. Sarah Kimbley received her Master's Degree in Experimental Psychology. She entered the Ph.D. program in Educational Neuroscience at Gallaudet University in fall 2020. Finally, research assistant Brennan Terhune-Cotter was accepted to the Joint Program in Speech, Language and Hearing Sciences at USCD/SDSU, also starting in fall 2020.

SPaCE currently houses two laboratories:

1. deaf x laboratory

Matthew W. G. Dye, Ph.D., principal investigator

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 2020, the deaf x laboratory worked on three major projects:

- Development of Temporal Visual Selective Attention in Deaf Children
  National Science Foundation: BCS-1550988   9/1/2016–8/31/2020
  PI: Matthew Dye; Co-PI: Peter C. Hauser $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 2020, the project team analyzed data from deaf and hard-of-hearing children across the nation who are in sign-based and speech-based educational programs. Three manuscripts for this project are currently under review, and in the coming year, more peer-reviewed journal articles and presentations are anticipated.

Research (continued)

- Neurocognitive Plasticity in Young Deaf Adults: Effects of Cochlear Implantation and Sign Language Experience
  National Institutes for Health: NIDCD R01DC016346   7/1/2017–6/30/2022
  PI: Matthew Dye $2,604,026

  The overall aim of this project is to examine the effects of auditory development, cognitive function and language outcomes in a large group of young deaf adults. The results of this study will provide much-needed and timely answers regarding the possible benefits of early cochlear implantation and early intervention with sign language that parents and policy-makers seek as they determine how best to intervene with the next generation of deaf infants who are cochlear implant recipients or candidates. In FY 2020, the team continued data collection activities and presented initial results. In the coming year, data collection will continue and dissemination activities will begin.

- Collaborative Research: Multimethod Investigation of Articulatory and Perceptual Constraints on Natural Language Evolution
  National Science Foundation: BCS-1749376   7/1/2018–6/30/2021
  PI: Matthew Dye $343,975

  The research team will take advantage of the fully visible articulators of sign languages to develop novel pose estimation algorithms so that they can automatically extract information contained in 2D video to create accurate 3D models of articulator movement during sign language production. These models will be used to empirically assess the extent to which linguistic changes are driven by perceptual constraints imposed by the human visual system and/or articulatory constraints imposed by the musculoskeletal system. This project is a collaboration between RIT/NTID, Pennsylvania State University, Boston University, and Barnard College.

2. Perception, Language & Attention in Youth (PLAY) Laboratory

Rain G. Bosworth, Ph.D., principal investigator

The mission of the PLAY Laboratory is to investigate how different types of sensory experience shape the ways in which we perceive the world, with a particular emphasis on the study of infants and young children. During FY 2020, the PLAY Laboratory worked on one major project:

- Impact of Deafness and Language Experience on Visual Development
  National Institutes for Health: NEI R01EY024623   6/1/2019–3/31/2020
  PI: Rain Bosworth $133,189

  This is the first study to look at visual development in deaf people from infancy to adulthood, teasing apart effects that result from deafness versus experience with a visual-manual language, American Sign Language. The current proposal also studies visual perception and spoken language proficiency in children who received cochlear implants.

Workshops and Training

In FY 2020, SPaCE co-sponsored a workshop on statistical computing to be delivered by invited Deaf faculty in ASL, but this had to be postponed due to the coronavirus pandemic.

Selected Publications

Morgan, G., & Dye, M.W.G. (2020). Executive functions and access to language: The importance of inter-subjectivity (pp. 268-284). In M. Marschark and H. Knoors (Eds), The Oxford Handbook of Deaf Studies in Learning and Cognition. New York, NY: Oxford University Press.

Research (continued)

Dye, M.W.G., & Thompson, R.L. (2020). Perception and production of language in the visual modality: Implications for sign language development. In G. Morgan (Ed.), Understanding deafness, language and cognitive development. Essays in honour of Bencie Woll (pp. 133-157). John Benjamins Publishing Co.

Stoll, C. & Dye, M.W.G. (2019). Sign language experience redistributes attentional resources to the inferior visual field. Cognition, 191, 103957.

Bosworth, R., Stone, A., & Hwang, S. (2020). Effects of video reversal on gaze patterns during signed narrative comprehension. Journal of Deaf Studies & Deaf Education, 25(3), 283-297.

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.

1. MITRE FCC Telecommunications Relay Services (TRS): Year Three
    Federal Communications Commission / MITRE Corporation $700,000
    PI: Michael Stinson

    RIT is collaborating with the MITRE research corporation on research, testing and procedures in order to share assessment approaches, to obtain test results on Video Relay Service (VRS) and Internet Protocol Captioned Telephone Service (IP-CTS), to further develop approaches and research, and to share plans and results. This project involves, but is not limited to: (a) usability research on consumer perspectives regarding the use of IP-CTS, VRS and other assistive technologies, and on determining the accuracy and latency threshold of captions in IP-CTS technology; (b) assessment of the interoperability of VRS devices; (c) assessment of the quality of VRS and IP-CTS services; and (d) research and development of various prototypes closely related to the ongoing ACE efforts.

NTID Research Center on Culture and Language (CCL)

Peter C. Hauser, Ph.D., director

The research mission of CCL is to study deaf and hard-of-hearing communities with the goal of enhancing sociocultural connectedness. The Center conducts translational, transdisciplinary and cross-institutional research on cultural and language factors to advance learning, well-being and health within the deaf population. CCL globally disseminates these discoveries to foster a transformative impact on deaf people's lives.

During FY 2020, the Center's personnel gave 37 presentations to academic, medical and community audiences nationally and internationally. COVID-19 did not interrupt CCL's operations. The Center became 100% remote on March 13, 2020, and was able to offer students more work hours during the spring semester and summer because other places of employment on and off campus and co-op

Research (continued)

experiences (for course credit) were not available. The increase in student research assistant support made it possible for CCL to be more productive than in the previous FY. Fortunately, all the necessary in-person research participant testing for external and internal grants had been completed and remaining data collection was successfully converted to online data collection and remote interview-based technologies. The student support also enabled CCL staff to focus more on writing manuscripts and submitting new grant applications.

CCL's training mission is to offer state-of-the-art research mentorship programs and activities for deaf and hard-of-hearing scholars and, ultimately, to increase the number of deaf and hard-of-hearing scientists in social, behavioral and biomedical research disciplines. During FY 2020, 21 RIT/NTID undergraduate and graduate students were actively involved in CCL activities, in addition to two deaf post-doctoral fellows from the Rochester Post-Doctoral Partnership program described in the section below entitled: "Research Educational Development Programs for DHH Individuals." This does not include the four deaf Bridges Scholars and eight deaf NSF fellows involved in CCL's science mentorship programs.

CCL operates four laboratories and two research education programs.

1. Deaf Health Laboratory

Jessica Cuculick '98, '02, Ed.D., co-director

The Deaf Health Laboratory studies cultural and language practices related to health literacy, healthcare, and the effectiveness of community-based solutions. During FY 2020, Dr. Jessica Cuculick '98, '02, received the NTID Scholarship Award for Tenured Faculty and DHL lab personnel worked on the scopes of work specified in two NIH-funded projects in collaboration with multiple institutes:

- Mechanisms of Health Literacy and Information Accessibility
  National Institutes of Health: 1R01DC014703   9/17/2015–8/31/2021
  Subaward from University of Michigan $600,189
  PI: Peter C. Hauser

  This project investigates the mechanisms of health literacy among deaf people, focusing particularly on how deaf people navigate and use websites to obtain health-related information. During FY 2020, the project team completed its collaborative data collection with sites in Michigan and Illinois. A total of 900 deaf and hearing adults were tested for 90 minutes with a battery of cognitive, learning, and health literacy measures along with behavioral and eye-tracking data on their website navigation practices in search for health information. A sample of 60 participants were tested in a second session that involved semi-structured qualitative interviews, more eye-tracking navigation data, and post-performance cognitive interviews.

- Pregnancy Outcomes and Experiences of Deaf and Hard-of-Hearing Women Year Three
  National Institutes of Health   06/01/19–05/31/20
  PI: Jessica Cuculick '98, '02 $19,603

  This project is investigating deaf and hard-of-hearing women's peri-, neo- and post-natal experiences. During FY 2019, the final data collection was completed, and video data is being transcribed. The qualitative data will be analyzed for common themes these deaf women experienced.

2. Deaf Studies Laboratory (DSL)

Joseph Hill, Ph.D., director

The Deaf Studies Laboratory, established in 2003 by CCL's director, is the original laboratory that eventually evolved into CCL. DSL's research mission is to study variation in, perception of, and ideology

surrounding the linguistic, social and historical aspects of sign language communities. During FY 2020, DSL lab personnel worked on two projects:

- <u>Interaction of Racial and Linguistic Perspectives in Evaluative Responses to Marked Signing Features</u>
  NTID Scholarship Portfolio Development Initiative (SPDI)   1/2/2014–12/31/2020
  PI: Joseph Hill $10,000

  This project explores language attitudes toward different dialects in American Sign Language. During FY 2020, Hill and graduate assistant Youmee Lee supervised the motion capture recording session, the development of avatar models, and the body mapping of captured motion data. By August 2020, they completed one set of five videos with animated avatars signing the same story. In the fall of 2020, they have another set of five videos of a different story to complete by December 2020.

- <u>Documenting Individual Variation in ASL (DIVA)</u>
  NTID Scholarship Portfolio Development Initiative (SPDI)   7/1/2018–6/30/2020
  PI: Corrine Occhino; Co-PI: Joseph Hill $9,968

  The goal of this project is to collect recordings of 100 students of varying regional, racial, ethnic and socio-economic backgrounds to create a preliminary database of individual linguistic variation in ASL. The objectives of this study are to: 1) describe the natural variation of ASL signers with diverse backgrounds; 2) evaluate ASL users' perceptions of non-standard varieties; and 3) develop a framework and preliminary data for a proposal to the National Science Foundation that will further explore the role of variation in educational and interpreting situations involving deaf individuals. During FY 2020, Occhino and Hill submitted their National Endowment for the Humanities grant application in June 2020 requesting funds for the development of a web application that is designed to collect and manage crowdsourced signing variation contributed by the website users. One student employee, Samara Patterson, gave a research presentation of the laboratory's work at RIT's 2020 Undergraduate Research Symposium.

3. **Multimodal Language Laboratory (MLL)**

Corrine Occhino, Ph.D., director

The research mission of MLL is to study the linguistics and cognitive aspects of sign language learning and use through language documentation, analysis and assessment. During FY 2020, Dr. Corrine Occhino, in collaboration with Dr. Vsevolod Kapatsinski (Department of Linguistics - University of Oregon), offered the first annual Usage-based Phonology Workshop (Us(e)Phon) with invited experts in the field to discuss how and why phonological patterns of language change over time. The Zoom webinar saw 180 live participants and garnered over 370 registrants from 40 countries, NTID and the University of Oregon. Us(e)Phon offered both live closed-captioning and ASL interpretation. During FY 2020, MLL focused on one research project to address an NTID priority: to assess faculty's ASL skill development.

- <u>ASL Test Development Project</u>
  NTID Office of the President   9/1/2016–9/29/2021
  PI: Peter C. Hauser

  This project is developing 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 2020, we completed the data collection for the ASL Online Vocabulary Exam (ASL-OVE) and the Fingerspelling and Numbers Comprehension Test (FaNCT) and began the psychometric analyses for item selection and preparing data for the programmers who will build the test in NTID's server.

4. XR Accessibility Solutions Laboratory (XR-ASL)

Wendy Dannels '98, '99, '00, '05, director

XR-ASL develops real-time, immersive, and interactive technologies such as mixed, augmented, and virtual reality with a focus on accessible and inclusive experiences. Wendy Dannels received the Up-and-Coming PI Award during the Sponsored Project Awards ceremony hosted by the OADR. A graduate student working on this project participated in poster sessions for the Graduate Showcase and Frameless Symposium. During FY 2020, the XR-ASL laboratory focused on the scope of work of the following grant:

- <u>Augmented Reality: Accessible Dynamic Informal STEM Learning for Deaf and Hard-of-Hearing: Year Two</u>
  National Science Foundation: DRL-1811509   9/1/2018–8/31/2021
  PI: Wendy A. Dannels '98, '99, '00, '05; $258,861
  Co-PIs: Brian Trager '00, '05 and Sara Schley

  With the extension of funding to the end of August 2021, this project continues with an early-stage pilot implementation involving a few different STEM-related exhibits. During FY 2020, the team began investigation into augmented reality (AR) technology to explore the possibility of providing accessible content to d/Deaf and hard-of-hearing informal learners during live presentations such as at science centers and museums. A smart-glasses app is being designed to allow learners to choose between signed and captioned content at will and will allow them to receive lectures while simultaneously viewing or interacting with various exhibits. A web portal for AR smart glasses users, captionists, interpreters, and science center/museum administrators was developed in FY 2020 and will be used by human subjects for a research study on informal learning during FY 2021.

Education Programs

The CCL presently plays a major role in two ongoing research education programs for deaf and hard-of-hearing individuals: the *Rochester Bridges to the Doctorate Program*, and the *Rochester Post-Doctoral Partnership*. These programs are detailed in the section below entitled: "Research Educational Development Programs for DHH Individuals."

Selected Publications

Hill, J., Lillo-Martin, D., & Wood, S. (2019). Sign Languages: Structures and Contexts (1st Edition). New York: Routledge.

Hill, J. (2020). Do deaf communities actually want sign language gloves? Nature Electronics, 3(9), 512–513. https://doi.org/10.1038/s41928-020-0451-7

Kurz, K., Mullaney, K., & Occhino, C. (2019). Constructed action in ASL: A look at second modality and second language learners. Languages 4 (4), 90. https://doi.org/10.3390/languages4040090

Lynn, M.A., Butcher, E., Cuculick, J.A., Barnett, S., Martina, C.A., Smith, S. R., Pollard, R.Q, & Simpson-Haidaris, P.J. (2020). Diversifying science: Mentoring and supporting deaf and hard-of-hearing scholars. Mentoring & Tutoring: Partnership in Learning, 28, 211-228. doi: 10.1080/13611267.2020.1749350

Mckee, M.M., Hauser, P.C., Champlin, S., Passche-Orlow, M., Wyse, K., Cuculick, J., Buis, L.R., Plegue, M., Sen, A., & Fetters, M.D. (2019). Deaf adults' health literacy and access to health information: Protocol for a multicenter mixed methods study. Journal of Medical Internet Research, 8, e14889. doi: 10.2196/14889

Morford, J. P., Occhino, C., Zirnstein, M., Kroll, J. F., Wilkinson, E., & Piñar, P. (2019). What is the source of bilingual cross-language activation in deaf bilinguals? Journal of Deaf Studies and Deaf Education 24(4), 356–365. https://doi.org/10.1093/deafed/enz024.

Occhino, C., Anible, B., & Morford, J. P. (2020). The role of iconicity, construal, and proficiency in the online processing of handshape. Language and Cognition 12(1), 114-137. https://doi.org/10.1017/langcog.2020.1.

Occhino, C., & Hou, L. (2019). [Review of Research Methods in Sign Language Studies: A Practical Guide, by E. Orfanidou, B. Woll, and G. Morgan]. Sign Language & Linguistics, 22(1), 155-69. https://doi.org/10.1075/sll.00033.occ.

Center for Education Research Partnerships (CERP)

Jessica W. Trussell, Ph.D., co-director and Thomastine Sarchet-Maher, '03, '09, co-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 (https://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 research center.

CERP was established to contribute to the education of deaf and hard-of-hearing students of all ages through the sharing of research findings and expertise with others. In FY 2020 CERP faculty members delivered a variety of invited/keynote lectures for schools and organizations in the United States and abroad, in addition to conference presentations. CERP members collaborated with colleagues at 15 schools and universities in the U.S. and abroad through ongoing research, joint publications, co-hosting conferences, and the editing of books (involving individuals from every continent except Antarctica). CERP also hosted visits from collaborating scholars based in the United Kingdom, Germany, Australia, Canada, and the Netherlands, as well as several from the United States.

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 Raising and Educating Deaf Children: Policy, Practice and Outcomes (http://www.raisingandeducatingdeafchildren.org/) has had tens of thousands of visitors. The website is supported by donations from private foundations, schools for the deaf and Oxford University Press. Due to the coronavirus pandemic, CERP was unable to run its Summer Transition Education Program during the summer of 2020. Therefore, the program was quickly retooled to take place during the fall of 2020 and is currently supporting 28 first-year NTID students. The Summer Transition Education Program is slated to continue in future years at NTID. At the same time, alternative formats of the program are being developed for other secondary and postsecondary settings. Beyond providing essential academic support for students, the program is expected to attract new students in the future and provide a wealth of data for forthcoming publications.

Dissemination

In FY 2020, CERP personnel published or have in press seven peer-reviewed journal articles, with four more under review. They also have published or have in press five book chapters and one book. CERP personnel have also served the field of deaf education by giving three peer-reviewed presentations and three workshops. Also, CERP and NTID's Communications, Marketing and Multimedia Services department partnered to host a virtual mini-conference, Best Practices in Mainstream Education of Deaf and Hard-of-Hearing Students on July 31, 2020. The conference featured pre-recorded presentations from teachers of the deaf from around the country on technologies and tools they used for remote

learning due to COVID-19. The miniconference also featured live panel discussions with the teachers and small professional working group breakout sessions on a variety of education topics.

Selected Publications

CERP's dissemination activities and ongoing research seek "simply to change the world through better understanding and improving the education of deaf students."

Trussell, J.W., Sarchet, T., & Walton, D. (in press). Reading and writing instruction for academically at-risk deaf and hard of hearing first-year college students. *Community College Review.*

Trussell, J. W. (2020). Learning social studies vocabulary via morphological instruction in the itinerant model. *American Annals of the Deaf. 165*(1), 52-71. doi: 10.1353/aad.2020.0010.

Cannon, J. E. & Trussell, J. W. (2020). Connections, Research, and Recommendations for the Importance of Morphosyntax in Literacy Acquisition across Languages for Learners who are d/Deaf or Hard of Hearing. In S. Easterbrooks & H. Dostal (Eds), *The Oxford Handbook on Deaf Studies and Literacy.* New York, NY: Oxford University Press. doi:10.1093/oxfordhb/9780197508268.013.10.

Marschark, M. & Knoors, H., Editors (2020). *The Oxford Handbook of Deaf Studies in Learning and Cognition*. New York, NY: Oxford University Press.

Edwards, L., Marschark, M., Kronenberger, W.G., Crowe, K., & Watson, D. (2020). Inferencing abilities of deaf college students: Foundations and implications for metaphor comprehension and theory of mind. *Journal of Developmental and Physical Disabilities*.

Marschark, M. & Rosica, M. (2020). Reading abilities of deaf college students: Has Elvis already left the building? In S. Easterbrooks & H. Dostal (Eds.), *The Oxford Handbook of Deaf Studies in Literacy*. New York, NY: Oxford University Press.

Duchesne, L. & Marschark, M. (2020). Effects of age of cochlear implantation on vocabulary and grammar: A review of the evidence. *American Journal of Speech and Language Pathology, 28*, 1673-1691.

Knoors, H. & Marschark, M. (2020). Accommodating deaf and hard-of-hearing children with cognitive deficits. In M. Marschark & H. Knoors (Eds.), *The Oxford Handbook of Deaf Studies in Learning and Cognition* (pp. 426-440). New York, NY: Oxford University Press.

Marschark, M. & Knoors, H. (2020). Deaf studies in learning and cognition: A coming-of-age story. In M. Marschark & H. Knoors (Eds.), *The Oxford Handbook of Deaf Studies in Learning and Cognition* (pp. 1-20). New York, NY: Oxford University Press.

Nikolaraizi, M., Kanari, C., & Marschark, M. (2020). Tickets for the inclusive museum: Accessible opportunities for non-formal learning by deaf and hard-of-hearing individuals. In M. Marschark & H. Knoors (Eds.), *The Oxford Handbook of Deaf Studies in Learning and Cognition* (pp. 391-407). New York, NY: Oxford University Press.

Hintermair, M., Duchesne, L. & Marschark, M. (2020). „Je früher, umso besser!?" – Zur Bedeutung des Implantationsalters für die Entwicklung hörgeschädigter Kinder. *HörgeschädigtenPädagogik, 74,* 14-23.

Dammeyer, J., Crowe, K., & Marschark, M., & Rosica, M. (2019). Work and employment characteristics of deaf and hard-of-hearing adults. *Journal of Deaf Studies and Deaf Education, 24*, 386-395.

Crowe, C., Marschark, M., & McLeod, S. (2019). Measuring intelligibility in signed languages. *Clinical Linguistics & Phonetics*, *33*, 996-1008.

Peer-Reviewed Conference Presentations

Trussell J.W., Sarchet- Maher, T., & Walton, D. (February, 2020) *Self-efficacy and emotional regulation in academically at-risk, first-year DHH college students.* Presented at the Association of College Educators- Deaf/Hard of Hearing Conference. Atlanta, GA.

Trussell J.W., Sarchet- Maher, T., & Walton, D. (February, 2020) *Backwards design for planning instruction: What can we learn from first year DHH college students?* Presented at the Association of College Educators- Deaf/Hard of Hearing Conference. Atlanta, GA.

Trussell, J. W. (November, 2019). *Reading to learn while still learning to read: The case of the DHH adolescent reader.* Presented at the Teaching Deaf Learners Conference. Amsterdam, Netherlands.

Workshops

Ntigulirwa, J., Griffin, E., Buckley-Thompson, J., & Bauman-Sarchet, S. (November, 2019) *Backwards design for transition: What can we learn from first-year college students who are DHH?* Presented at the Partnerships in Deaf Education Conference. Corning, NY.

Trussell, J. W. (November, 2019). *What can we learn from first-year college students?* Presented at the HELIX Conference. State College, PA.

Trussell, J. W. (November, 2019). *Planning effective literacy instruction*. Presented at the HELIX Conference. State College, PA.

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

Sara Schley, Ed.D., director and Carol Marchetti, Ph.D., associate 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 the education of deaf and hard-of-hearing students.

Research Projects

In FY 2020, RCfTL personnel led one federally funded research project and partnered on two additional federally funded research efforts. RCfTL personnel contributed to a proposal to the NIH: "IRACDA at Rochester Partnership to Advance Research and Academic Careers in Deaf Scholars." The renewal proposal, for a six-million-dollar partnership between RIT/NTID and the University of Rochester's Medical Center, was submitted on September 29, 2020.

- Faculty in Pedagogical Exploration and Innovation for Accessible STEM Instruction with Deaf/Hard-of-Hearing Students
  National Science Foundation   8/29/2016–8/28/2021
  PI: Sara Schley; Co-PIs: Stephanie Cawthon (University of $443,200
  Texas), W. Scot Atkins '89, '92

  This project is developing and operating faculty learning communities to teach basic principles of instructing deaf and hard-of-hearing students to faculty in other RIT colleges. In FY 2020, the project offered two sessions of its Faculty Learning Community program. Faculty participants learned basic principles about instructing deaf and hard-of-hearing students and devised and

tested ways of improving communication and collaboration in postsecondary classes with mixed groups of deaf and hearing students. An online "accessibility toolkit" of strategies for teaching STEM subjects in a mainstream classroom continues to be under development.

Faculty and Student Mentoring Activities

A focus of the RC*f*TL involves mentoring and developing faculty research and inclusive pedagogy skills. RCfTL faculty presented on one expert panel, designed three online webinars, and mentored a doctoral student. FY 2020 projects included the following:

- Blaser, B., Ray, M. & Schley, S. 2020. Universal Design for Learning Expert Panel. Carnegie Mellon University Human Computer Interaction Institute Accessibility Seminar. Pittsburgh, PA. https://www.youtube.com/watch?v=P-EVlr3zpCk&feature=youtu.be

- Schley, S. 2020. Webinar: Creating an Inclusive Classroom: Students with Disabilities. National Center for Faculty Development and Diversity. (requires NCFDD membership.)

- Schley, S. 2020. Webinar, NCFDD Resources: COVID-19. Pivoting to Online Teaching. National Center for Faculty Development and Diversity. (requires NCFDD membership.)

- Schley, S. 2019. Live Online Seminar: Increasing Inclusion and Interaction: Disabilities in the College Classroom. *Magna Online Publishers*.

- <u>Culturally Appropriate Icons in Digital Applications for Deaf and Hard-of-Hearing Users.</u>
  PI: Doctoral student in GCCIS; mentor: Carol Marchetti

Dissemination

In FY 2020, RC*f*TL personnel gave seven peer-reviewed conference and poster presentations, led seven workshops and had six peer-reviewed journal articles accepted for publication (two are currently in press, four are in print), as well as two manuscripts that went from "in press" to "in print," and two published pedagogy columns. One manuscript is currently under review at a journal's request. Three additional manuscripts have been drafted and are being prepared for publication review.

<u>Peer-Reviewed Publications</u>
Scott, S., & Marchetti, C. In Press. A Review of the Biennial AHEAD Surveys: Trends and Changes in the Demographics and Work of Disability Resource Professionals, *Journal of Postsecondary Education and Disability.*

Schley, S. & Marchetti, C. In press. Engaging Faculty in Designing Inclusive and Collaborative Classroom Strategies with Students with Disabilities: A Guide for Faculty Developers. *Proceedings of the ICED 2020 - International Consortium for Educational Development conference,* Zurich, Switzerland.

Schley, S., Duckles, B., & Borhane, B. 2020. Strategy: Working Open: F2F/Online and Synchronous/Asynchronous Flexibility. *Journal of Faculty Development,* 34(3), 94-95.

Jassal, Y., Cawthon, S., & Schley, S. 2020. Student Observations of Postsecondary Classroom Instruction. *Transformative Dialogues: Teaching and Learning Journal*, 20(1), 1-21.

Chimenti, C., McIntyre, J., Noonan, B., Woerner, L., Bell, M., & Marchetti, C. 2020. Pain Assessment Clinical Practice Improvement: An Educational Approach in the Home Healthcare Setting. *Home Healthcare Now*, 38(5), 254-260.

Research (continued)

McClive, J., Mousley, K., Marchetti, C. E., Simkins, D., Blatto-Vallee, G., Jackson, J., & Foster, S. 2020. Supplemental Online Learning Tools (SOLTs) to Support Deaf and Hard of Hearing Students in Introductory Statistics Courses. *Journal of Science Education for Students with Disabilities,* 23(1), 11.

Cawthon, S., Schley, S., & Davidson, S. 2019. Student Observation to Improve Access to Instruction in Postsecondary Education. *Journal of Postsecondary Education and Disabilities: In Brief*. 32(4), 451-458.

Marchetti, C., Schley, S., O'Neil, J., Elglaly, Y., Zuchegno, A., Mousley, K., Atkins, S. & Cawthon, S. 2019. Faculty Perspectives on Developing Strategies to Improve Access in Diverse Post-Secondary Classrooms. *Learning Communities Journal*, 11(1).

Stinson, M., Elliot, L, Marchetti, C., and Rentsch, J. Under review. "Sharing of Knowledge and Problem Solving When Teammates Have Diverse Hearing Status," *Small Group Research*.

Workshops
Esterman, M., Bailey, M. and Marchetti, C. 2019 (Dec 10). Engaging Faculty in Institutional Transformation. RIT Faculty Workshop. Rochester, NY.

Schley, S. and Marchetti, C. 2019 (Nov 15). Engaging Students in Faculty Development: Access and Inclusion Strategies. POD Network Annual Conference. Pittsburgh, PA.

Schley, S. and Marchetti, C. 2019 (Oct 28). Elevating Deaf Inclusion in Your Classroom: Change One Thing. Innovative Learning Institute, RIT. Rochester, NY.

Marchetti, C. 2019 (Oct 25). Effective Student Teamwork (INVITED ENCORE PRESENTATION). Innovative Learning Institute, RIT. Rochester, NY.

Bailey, M. and Marchetti, C. 2019 (Oct 11). Strategic Mentoring Networks. Women's Leadership Development Day, University of Rochester, Rochester, NY.

Bailey, M., Marchetti, C., Lopez Alarcon, S. and Liu, E. 2019 (Oct 11). Building Consensus. Women's Leadership Development Day, University of Rochester, Rochester, NY.

Marchetti, C. and Bailey, M. 2019 (Oct 5). The Importance of "How" in Faculty Salary Equity Studies. Magna Leadership In Higher Education Conference, St. Louis, MO.

Publications: Reviews and Opinion
Schley, S. 2019 (Nov. 7). Increasing Inclusion and Interaction: Disabilities in the College Classroom. *Faculty Focus:* Effective Classroom Management. Magna Online Publishers. https://www.facultyfocus.com/articles/effective-classroom-management/disabilities-in-the-college-classroom/

Schley, S. 2019 (Nov. 4). Easy to Implement Strategies for Disabilities in the College Classroom. *Faculty Focus,* Effective Classroom Management series. https://www.facultyfocus.com/articles/effective-classroom-management/disabilities-in-the-college-classroom/

Peer-Reviewed Conference Presentations (*Conferences canceled due to the coronavirus pandemic are noted)
Schley, S., Atkins, W. S., Lange, D., Kavin, D., & Dannels, W. 2020 (July 5-8). Access, Inclusion, Interaction, and Engagement between DHH and hearing participants in formal and informal learning environments. *ICED 2020 – International Congress on the Education of the Deaf*. Brisbane, Australia. (Conference canceled).

Schley, S. & Lange, D. 2020 (July 5-8). Universal Design for Learning: Strategies for Inclusion. *ICED 2020 – International Congress on the Education of the Deaf.* Brisbane, Australia. (Conference canceled)

Schley, S. & Marchetti, C. M. 2020 (June 15-18). Engaging Faculty in Designing Inclusive and Collaborative Classroom Strategies with Students with Disabilities: A Guide for Faculty Developers. *ICED 2020: International Consortium for Educational Development,* Zurich, Switzerland. (Conference canceled)

Helmke, B. P., Grimm, M. J., Jensen, K., Childers, R. C., Schley, S., & LeDoux, J. M. 2020 (June 25). Diversity, Equity, and Inclusion in Biomedical Engineering: Best Practices and Future Directions. *ASEE's 2020 Virtual Annual Conference – Biomedical Engineering Division.* Montreal, Quebec, Canada. https://www.asee.org/public/conferences/172/registration/view_session?session_id=12985

Stinson, M.S., Elliot, L.B., Rentsch, J. & Marchetti, C. E. 2020, (April 17-21). Enriched Communication and Messaging in Teams with Deaf, Hard of Hearing and Hearing and Postsecondary Students, *2020 Annual Meeting of the American Educational Research Association*, San Francisco, CA. (Conference canceled)

Atkins, W.S., Schley, S. & Cawthon, S. 2019 (Nov. 20). UDL and Accessibility Strategies in the Classroom Using Faculty Learning Communities. *Accessing Higher Ground Conference*, Denver, CO.

Schley, S. & Marchetti, C. 2019 (Nov. 15). Engaging Students in Faculty Development: Access and Inclusion Strategies. *POD Network Annual Conference.* Pittsburgh, PA.

OTHER FUNDED RESEARCH AND OUTREACH EFFORTS

Communication Research

Michael Stinson, principal investigator

1. <u>Investigating Team Knowledge Building in Complex Science and Statistics Problem Solving when the Teams Include Deaf/Hard-of-hearing and Hearing College Students, Year Five</u>.
   National Science Foundation   9/1/2015–8/31/2021
   PI: Michael Stinson; Co-PIs: Lisa Elliot, Carol Marchetti $499,830
   (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 incorporated in science, technology, engineering and mathematics (STEM) classes because of its perceived pedagogical benefits, groups that consist of deaf and hard-of-hearing students as well as hearing students often struggle to communicate while working on these critical STEM learning activities. Test teams with two deaf and hard-of-hearing students and two hearing students participated 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.

<u>Publications</u>
Stinson, M., Elliot, L., Marchetti, C., & Rentsch, J. (2020). *Sharing of knowledge and problem solving when teammates have diverse hearing status.* Manuscript submitted for publication.

Research (continued)

Peer-Reviewed Conference Presentations
Stinson, M., Elliot, L., Marchetti, C., & Rentsch, J. (2020, April 20). *Enriched communication and messaging in teams with deaf, hard-of-hearing and hearing postsecondary students.* Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA. (Conference canceled).

Deaf STEM Community Alliance

Lisa Elliot, Ph.D., principal investigator

1. Deaf STEM Community Alliance: Supporting Postsecondary Deaf and Hard-of-Hearing Students in Science, Technology, Engineering and Mathematics.
   National Science Foundation   9/15/2011–8/31/2020
   PI: Lisa Elliot; Co-PI: Austin Gehret $2,630,818

   The goal of this project is to increase graduation rates of deaf and hard-of-hearing STEM majors in postsecondary education. The project 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 collaborating with NTID to pilot a national model. The project has developed a unique environment, called the Deaf and Hard-of-Hearing Virtual Academic Community (DHHVAC), which is a cyber-infrastructure hosting 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. To date, the DHHVAC has conducted more than 170 synchronous online tutoring sessions and produced more than 600 videos to support students in mathematics and chemistry courses. Seventeen STEM professionals who are deaf or hard-of-hearing provided mentoring advice to student participants. The DHHVAC also includes an AAA-rated accessible website according to the WEC Web Content Accessibility Guidelines (https://www.rit.edu/ntid/dhhvac/), and video archives on a YouTube channel.

   Publications

   Elliot, L.B., Gehret, A.U., Valadez, M.S., Carpenter, R., & Bryant, L.B. (2020). Supporting autonomous learning skills in developmental mathematics courses with asynchronous online resources. *American Behavioral Scientist*. https://doi.org/10.1177/0002764220919149

2. DCL: NSF INCLUDES EAGER: A Study of Online Scientific and Scholarly Communities for Broadening Participation in STEM
   National Science Foundation   9/1/2018–8/31/2021
   PI: Lisa Elliot $299,347

   This project compares the online scientific and scholarly community groups created by the Deaf STEM Community Alliance, which is hosted by RIT/NTID, and the NSF INCLUDES Open Forum, which is hosted by the American Association for the Advancement of Science (AAAS). It is exploring the life cycle stages of the communities, development of leadership and community engagement managers' roles and skills and members' perceptions of social capital and benefits for each community. The findings will add new knowledge that will contribute to strengthening the NSF INCLUDES Network and other NSF efforts to broaden STEM participation.

Toward a National Hub of Excellence for Deaf and Hard-of-Hearing Scientists

RIT/NTID is participating in a partnership with the University of Rochester (UR) and the Rochester Regional Health (RRH) organization to develop a National Hub of Excellence that will support the academic development, professional training and career advancement of deaf and hard-of-hearing

individuals pursuing careers in biomedical and behavioral science fields. These institutions are combining their experience and expertise in research training, health care and the education of deaf and hard-of-hearing students. The concept of the Rochester Hub is explained in the following publication, and the specific programs offered to deaf and hard-of-hearing students and professionals are listed below.

Buckley, G., Smith, S., DeCaro, J., Barnett, S., & Dewhurst S. (Jan. 19, 2017). Building community for deaf scientists. *Science*, 355(6322), 255.

Research Educational Development Programs for Deaf and Hard-of-Hearing Individuals

Three NIH-funded educational development programs form the nucleus of the Hub pipeline to support the academic development of deaf and hard-of-hearing students who aspire to careers in biomedical and behavioral science fields: RIT-RISE (for RIT undergraduate students), Rochester Bridges to the Doctorate (for RIT graduate students) and the Rochester Postdoctoral Partnership (for UR postdoctoral fellows). The first award is a partnership across six colleges of RIT, and the latter two awards are in full partnership with the University of Rochester.

RIT-RISE Scientists-In-Training Program for Deaf and Hard-of-Hearing Undergraduates
National Institutes of Health   4/5/2017–3/31/2022
PI: Vincent Samar; Co-PI: Paul Craig (COS) $1,025,191

The NIH-funded RIT-RISE Scientists-In-Training Program is a cross-campus collaboration among NTID and RIT's College of Science, College of Liberal Arts, College of Health Sciences and Technology, Kate Gleason College of Engineering and B. Thomas Golisano College of Computing and Information Services. The goal of the program is to diversify the national scientific workforce by increasing the number of deaf and hard-of-hearing biomedical, biobehavioral and clinical research scientists.

Presently in its fourth year, the RIT-RISE Scientists-In-Training Program is providing research preparation, research experience, supplemental research training and career preparation to support four deaf/hard-of-hearing undergraduate RIT students who aspire to become successful Ph.D. scientists. RIT-RISE scholars engage in intensive research training, working closely with selected RIT faculty and external mentors during three academic years and two summer terms. The grant pays student wages and provides funds for lab and other research supplies. Scholars also receive ongoing advising/counseling, feedback on their writing, special research-environment accommodations as determined by periodic research-environment communication access assessments and enhanced academic mentoring from faculty researchers. The project team uses doctoral readiness meetings and individualized research development plan assessments to track the success of each scholar in achieving targeted core research competencies.

The RIT-RISE Scientists-In-Training Program also provides ongoing curricular and co-curricular programming to promote undergraduate research experiences for students throughout RIT. RIT-RISE developed two new research-oriented courses and a new summer research training workshop that introduces interested students and faculty to hot topics in science, journeys of other successful scientists, essential professional development topics, scientific writing, the responsible conduct of research and the principles of rigor and reproducibility. The RIT-RISE Program is currently exploring partnerships with other universities and institutions to disseminate its research-oriented courses and workshops.

The RIT-RISE Program also collaborated with NTID's Department of American Sign Language and Interpreting Education (ASLIE) to develop new classroom and online courses for undergraduate and graduate interpreting students at RIT/NTID, focused on interpreting in research settings.

Conference Presentation

Dahlstrom, S., Houston, R. Altheimer, I., and Samar, V. J., (2020, May). Mentored Undergraduate Research on Impulsivity, Self-control, and Delinquency: Sponsored by the RIT-RISE Program for Deaf and Hard-of-Hearing Undergraduates. Poster presented at the 32nd Association for Psychological Science Teaching Institute, Virtual Poster Showcase.

Rochester Bridges to the Doctorate
NIH R25 GM107739/417472G   8/1/2018–7/31/2023
PI: Peter C. Hauser $1,161,992

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, which is locally administered by the NTID Research Center on Culture and Language, provides RIT 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. The program supported three deaf and hard-of-hearing scholars during FY 2020.

Rochester Partnership to Advance Research and Academic Careers in Deaf Scholars
NIH K12 GM106997   7/1/2015–3/31/2021
PIs: Stephen Dewhurst (UR), Richard Doolittle (CHST) $401,904
Training Director: Peter C. Hauser

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 University of Rochester Medical Center (URMC) and its National Center for Deaf Health Research, the "Rochester Postdoc Partnership" (RPP) enhances learning opportunities at each institution to create a pipeline of deaf and hard-of-hearing scientists who can pursue careers in research and teaching. Fellows engage in research activities at URMC laboratories and teach courses at NTID in their fields of expertise. The program has an excellent record of its fellows securing employment in academia. In FY 2020, as in the year before, this program hosted a popular national conference for deaf and hard-of-hearing persons interested in research and academia, drawing participants from around the country and facilitating applications to the RPP program.

Deaf Population Health Research
NIH R21 DC016475   8/14/2017–7/31/2020
PI: Robert Pollard $224,356

In collaboration with the University of Rochester's Department of Obstetrics and Gynecology, the Deaf Population Health Research team is conducting ongoing NIH-funded two-phase mixed-methods research to study what biopsychosocial factors (e.g., skills and resources) might help prelingual deaf people manage their deafness in a predominantly hearing society. Findings from Phase I qualitative interviews indicated seven specific biopsychosocial themes (markers) including: (1) language deprivation; (2) information deprivation; (3) impaired sense of belongingness; (4) inadequate social support; (5) impaired self-efficacy; (6) academic and employment difficulties and (7) increased stress. Two generic biopsychosocial markers were also identified: (1) mental health issues and (2) physical health issues as these more holistic issues are also influenced by many other non-deaf-specific factors.

Research (continued)

Publications, conference papers and presentations

Dong, E., Fuechtmann, L., Hall, W.C., Mora, J.A., Dye, T.D.V, & Pollard, R.Q (2019, March). A preliminary report of biopsychosocial management strategies in deaf individuals. Poster session at the Early Hearing Detection and Intervention Conference, Chicago, IL. (March).

Fox, M. L. & Pollard, R. Q. (2019). Interpreting and the mental status exam. In the Handbook of Research on Medical Interpreting. Hershey, Pennsylvania: IGI Global.

Listman, J. D. & Pollard, R. Q. (2019). Deaf culture. The SAGE Encyclopedia of Human Communication Sciences and Disorders (pp. 545-548). Thousand Oaks, CA: SAGE Publications, Inc.

Hall, W.C., Smith, S.R., Mora, J.A., Fuechtmann, L., Dye, T.D.V. & Pollard, R.Q (2018). Investigating key biopsychosocial factors that mediate lifespan management of prelingual hearing loss: A phase 1 report. Poster session at the American Public Health Association conference, San Diego, CA. (November).

Hall, W. C., Smith, S. R., Sutter, E. J., DeWindt, L. A., & Dye, T. D. V. (2018). Considering parental hearing status as a social determinant of deaf population health: Insights from experiences of the "dinner table syndrome". *PLoS One*, 13(9):e0202169. doi: 10.1371/journal.pone.0202169. eCollection 2018.

Mobile Applications Curriculum Development

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
National Science Foundation   6/1/2016–5/31/2021
Co-directors: David Lawrence, Elissa Olsen '78, '80, '99 $820,504

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 educates students using a native cross-platform development approach (Xamarin) to create mobile apps for multiple platforms.

During FY 2020, three credit-bearing courses underwent significant revisions to reflect changes in the rapidly evolving app development industry during the third year of the program: Programming Fundamentals I: Mobile Domain, Programming Fundamentals II: Mobile Domain, and Mobile App Development II. In addition, one course (Mobile App Development Capstone) was offered for the second time to third-year students, offering the opportunity to work on porting an app developed for iOS using a cross-platform development platform to recreate the app for both Android and iOS.

Two students have successfully completed the Mobile App Development program and graduated with an associate degree in May 2020. Seven students completed their second year of study and will complete the program before the end of FY 2021. Four successfully obtained summer cooperative work experiences with Microsoft, Hands & Voices, and SmartPillow. Two students have successfully completed their first year of the Mobile App Development program. All students in the program have attended learning community events that include guest speakers from Microsoft and Perficient, participated in a code competition, engaged in test preparation exercises, conducted homework review and participated in team activities and other activities that facilitated student and faculty interactions.

Research (continued)

A new course titled Survey of Emerging Visual Design was created as a result of recommendations to bolster design knowledge in students. The course was offered to new students for the first time in the fall semester of 2019.

The grant has received approval for a one-year, no-cost extension until May 31, 2021, to improve recruitment, train faculty, create and convert curriculum for online learning and create marketing videos with app developers who are deaf or hard of hearing to inspire a new generation of students to enter STEM-related fields.

Sign Language Education and Experience Research

Kim Kurz '93, '95, Ph.D., director

The main research focus is to investigate issues in sign language education and experience, and research methods and issues in interpretation and translation.

All Children Reading: Begin with Books (*World Around You: International Collaborative Multilingual Sign Language Books*)
United States Agency for International Development/World Vision   3/24/2020–03/23/2022
PI: Kurz, C.; Co-PIs: Jacobs, S.; Sarchet, T; & Kurz, K. $236,956

Selected Publications

Kurz, K., & Kurz, C. (in press). No two interpretations are alike: A study of constructed meaning in English to ASL interpretations in education. In Winston, E. A. & Fitzmaurice, S (Eds). *Educational interpreting: How it can succeed – Second Volume*. Gallaudet University Press.

Kurz, C., & Kurz, K. (in press). Infusing ASL in the academic settings. In Winston, E. A. & Fitzmaurice, S (Eds). *Educational interpreting: How it can succeed – Second Volume*. Gallaudet University Press.

Kurz, K., & Metzger, M. (in press). Signed language interpreters in education: Perspectives on their role in deaf and hard of hearing students' educational placement. In Winston, E. A. & Fitzmaurice, S (Eds). *Educational interpreting: How it can succeed – Second Volume*. Gallaudet University Press.

Kurz, C., & Kurz, K. (2020). Academic American Sign Language [news bulletin]. Center for Education Research Partnerships. Oxford University Press.

Listman, J., & Kurz, K. (2020). Lived experience: Deaf professionals' stories of resilience and risks. *Journal of Deaf Studies and Deaf Education, 25*(2), 239-249.

Kurz, C., Jacobs, S., Kurz, K., & Sarchet, T. (2019). *World Around You.* [Website]. Deafworldaroundyou.org

Kurz, K. B., Mullaney, K., & Occhino, C. (2019). Constructed Action in American Sign Language: A Look at Second Language Learners in a Second Modality. *Languages*, *4*(4), 90.

Selected Presentations

Kurz, C., & Kurz, K. (2020 - COVID). DeafEd equity: Open-Source platform for books and games. National Deaf Education Signs.

Kurz, K., & Mullaney, K. (2020). *An analysis of constructed action in American Sign Language narratives: Comparing native signers and second language learners.* Linguistics Society of America conference. New Orleans, LA.

Kurz, K. (2019). *An analysis of constructed action in American Sign Language narratives: Comparing native signers and second language learners.* 13th Theoretical Issues in Sign Language Research conference, Hamburg, Germany.

Dye, M., Huenerfauth, M., & Kurz, K. (2019). *Sign language avatars activate phonological and semantic representations: Evidence from working memory and priming paradigms.* 13th Theoretical Issues in Sign Language Research conference, Hamburg, Germany.Kurz, K., & Hill, J. (2019). *The "heart" of interpretation from Deaf perspective.* World Federation of the Deaf conference, Paris, France.

Kurz, K. (2019). *Second modality and second language acquisition and constructed actions in ASL learners.* World Association of Sign Language Interpreters conference, Paris, France.

Kurz, K., Bowman, C., Mullaney, K., & Stillman, M. (2019). *The cognitive benefits of learning a second language in a second modality: A cross-sequential study of ASL learners.* Linguistics Society of America conference. New York City.

Substance and Addiction Intervention Services for the Deaf (SAISD)

Keven Poore, program director

Ongoing funding
NYS Office of Addiction Services and Supports (OASAS)
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 information/referral, prevention/education, intervention, cross-disability professional consultation and training and support to treatment programs. 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 15 surrounding counties in upstate New York (approximately 55,000 individuals). SAISD recently changed its name from Substance and Alcohol Intervention Services for the Deaf to Substance and Addiction Intervention Services for the Deaf.

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 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."

NTID has become a leader at RIT in supporting students in research projects. FY 2020 was a unique time for students and faculty working together on research projects, as a significant amount of the work (especially hands-on research) was disrupted by COVID-19. Still, student researchers took advantage of funding to support their research and to travel (when allowed) to present the fruits of that research at professional conferences. Several student researchers were listed as co-authors on peer-reviewed published journal articles. Unfortunately, due to the pandemic, the Annual NTID Research Fair that typically occurs in the spring was canceled. However, prior to campus moving to remote instruction, student-focused workshops related to preparing research abstracts were offered.

Support for Student Involvement in Research

This year, NTID offered two support mechanisms to encourage student involvement in research:

- Student research micro-grants: 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.

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

For two years, NTID has also offered a grant-supported summer research program open to deaf and hard-of-hearing undergraduates from across the country. This summer, due to COVID-19 restrictions, the REU was canceled despite receiving numerous applications from qualified undergraduate across the country. The REU will run again in the summer of 2021.

- REU Site: Summer Undergraduate Research for Students who are Deaf or Hard-of-Hearing in Applying Mathematical and Statistical Methods to Problems from the Sciences (REU@NTID)
  National Science Foundation   6/1/2017–5/31/2021
  PI: Bonnie Jacob, Co-PI: Jason Nordhaus $303,000

  This program is a unique REU Site geared toward the needs of deaf and hard-of-hearing scholars. It provides paid research experiences to undergraduates from RIT or other institutions across the country, who spend the summer working at NTID with faculty mentors who are proficient in American Sign Language and accustomed to interacting with deaf and hard-of-hearing students. After running for two consecutive summers (2018 and 2019) the program was canceled in 2020 for one summer because of COVID-19, with plans to return for the third time in the summer of 2021. A student from the 2019 REU cohort presented her research at the Council for Undergraduate Research REU Symposium in October 2019. The symposium is selective, inviting a maximum of one student per REU site to present research results.

For the third time, the National Science Foundation granted NTID an international travel and mentorship award for deaf and hard-of-hearing aspiring scientists.

- Broadening Participation of Deaf Students in Sign Language Research
  National Science Foundation   4/1/2019–3/31/2020
  PI: Peter Hauser $71,100

  Sign language research has grown exponentially across multiple disciplines over the past decade. The majority has been conducted by hearing scholars with little contribution from deaf researchers. The low participation rate of deaf and hard-of-hearing scholars studying their own languages is likely related to the lack of resources such as accessible training and the availability of sign language research mentors. This project's aim was to increase the participation of deaf individuals in sign language research. Deaf researchers are fundamentally important to sign language research for two main reasons. First, the absence of "insiders," both in terms of language and cultural awareness, in the scientific study of signed languages can limit the intellectual merit of sign language research projects. Second, broader participation in STEM disciplines by individuals from different backgrounds, including deaf and hard-of-hearing scholars, helps researchers think outside of the box, produce better science, disseminate more widely to diverse populations, and ultimately have a broader impact. This grant supported a program to recruit and mentor deaf and hard-of-hearing scholars interested in sign language research, sending them to the Theoretical Issues in Sign Language Research conference in Hamburg, Germany during FY 2020, and to provide American Sign Language (ASL) interpreting services at the conference. Over 20 deaf and hard-of-hearing college students applied to be a

Research (continued)

part of this program and eight were selected and participated in this international research mentorship program.

Dr. Joseph Hill from the NTID Research Center on Culture and Language (CCL) received an international science mentorship award from NSF in collaboration with the Department of Linguistics at Stockholm University.

- IRES Track II: Translanguaging Science: Enhancing Literacy Research Through Enhanced Assessment of Proficiency and Processing
  National Science Foundation   8/1/2020–7/31/2023
  PI: Joseph Hill; Co-PI: Matthew Dye $401,828

  This proposal will support 10 advanced graduate students annually for two years at an Advanced Studies Institute in Stockholm University (Sweden) titled "*Translanguaging Science: Enhancing Literacy Research Through Enhanced Assessment of Proficiency and Processing*." The Institutes will be 14 days in length, and have a particular focus on print literacy in deaf and hard-of-hearing children who commonly participate in translanguaging practices. The core faculty will be a collection of experts in sign language assessment, speech assessment, bilingual assessment, literacy assessment, psychometrics, and neuroimaging. These individuals will have overall responsibility, with the PI and co-PI, for the syllabus and curriculum, which include a series of integrated lectures, workshops and group activities around the following topics: translanguaging and literacy, language assessment, and language processing in multilinguals. During FY 2019, the project team worked with NSF to extend funding for the Advanced Studies Institute for when it is safe to travel after the conclusion of the pandemic.

Dr. Jason Nordhaus has received two awards that provide research experiences for deaf and hard-of-hearing students through discipline-based research.

- Lost in Translation: Removing barriers for deaf participation in STEM fields
  Gordon and Betty Moore Foundation   5/1/2019–4/30/2022
  PI: Jason Nordhaus $294,219

  Deaf and hard-of-hearing participation in STEM fields is severely limited due to the presence of significant language barriers. In the college classroom, access to content is mediated via ASL interpreters. When communicating in ASL, interpreters must choose the correct signs to indicate meaning, a practice known as signing with conceptual accuracy. Conceptual accuracy is critical to understanding because the interpreter will not use signs that simply match the English words but signs that convey the meaning of the concept being taught. Unfortunately, it is rare for interpreters to possess STEM backgrounds and/or the conceptual understanding of high-level STEM content. Compounding the issue is a serious lack of well-developed technical signs in STEM disciplines. Quite literally, information can be lost in translation.

  This project is creating and testing a novel and scalable solution that addresses the language barrier in physics. Namely, we are producing a comprehensive series of short (2-3 minutes) conceptually accurate signed videos, each of which is centered around a singular physics concept. As part of this process, we are developing and releasing new technical content. Conceptual understanding is being measured in RIT physics classrooms when the videos are used in the following configurations: (i.) students only, (ii.) interpreters only, (iii.) students and interpreters simultaneously. It is our belief that this project will result in an inspiring template that can be repeated for any discipline, thereby permanently eliminating the language barrier that inhibits deaf participation in STEM disciplines.

Publications resulting from the award

AstroDance: Engaging Deaf and Hard-of-Hearing Students in Astrophysics via Multimedia Performances
Nordhaus, J., Campanelli, M., Bochner, J., Warfield, T., Bischof, H.-P., Noel-Storr, J. 2020
Journal of Science Education for Students with Disabilities 23, 1

- Brief But Spectacular: New Windows into the Physics of Common Envelope Evolution
  National Science Foundation: AST-2009713   7/1/2020–6/30/2023
  PI: Jason Nordhaus $296,190

This award supports two deaf and hard-of-hearing students for a summer research experience for each year of the award with a project team studying the physics of common envelope evolution. A variety of exotic compact objects are formed when two stars merge. This requires a close binary orbit. One common way to shrink the orbit of two binary stars is during a "common envelope" phase (CE). This phase only lasts a local year, but it is transformative. The star with the most mass swells as it grows old and engulfs its companion. The resulting friction reduces the distance between the stars. Progress in understanding this brief but important phase in stellar evolution has been hampered by a lack of observational data to test the models. Only two post-CE systems have been identified. The team will conduct a large-scale systematic search in hundreds of open star clusters. Once the post-CE systems are identified the team will determine the orbital properties of the binary system, the temperatures and masses of the binary stars, and age of the stellar cluster. Using this data, the team will be able to place tight constraints on both the pre- and post-CE phases. For the first time, theorists will be able to match the simulations to a set of real outcomes drawn from this new catalog of post-CE binary stars.

Publications resulting from the award:

Convection and Spin-Up During Common Envelope Evolution: The Formation of Short-Period Double White Dwarfs Wilson, E., Nordhaus, J. 2020 MNRAS 497, 1895

Bipolar Planetary Nebulae from Outflow Collimation by Common Envelope Evolution. 29th RIT Undergraduate Research Symposium on July 30, 2020 (virtual)

RIT's Undergraduate Research Symposium

Each year RIT hosts a large undergraduate research symposium. In summer 2020, a virtual version of the symposium took place. NTID-supported students disseminated their research with short, captioned video summaries of their work. NTID student research was supported by federal grants, internal awards, or faculty start-up funds. The projects represented both discipline-based research and center-based research that explore deafness and the deaf experience.

Innovation and Creativity at NTID

Over the last decade, RIT has increased 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

ASLIE's three department classrooms are each equipped with four HD cameras, three "smart" microphones, two large-screen televisions, a white board and a teacher's station with an Apple computer. The technology is controlled by a specially designed touchpad and a camera controller. Additionally, each classroom is equipped with the following technology for students: Apple MacBooks and headsets with microphones. The classrooms use Apple's wireless technology to connect faculty and student devices to the TVs. Capturing student work or presentations is done with GoReact, a web-based video capture and storage program, or with other applications such as Zoom, Photo Booth or QuickTime.

Keeping Current in Communication Studies and Services

The Communication Studies and Services (CSS) department recognizes the exciting benefits of emerging technological trends to enhance communication access for deaf and hard-of-hearing individuals. CSS faculty and staff continuously participate in training activities to remain current and share these communication-related resources and options with students. Recent examples include:

- **Bluetooth technology**: Hearing aids and cochlear implants now have the ability to stream from mobile devices, such as cell phones and tablets. Deaf and hard-of-hearing students enjoy improved communication on the phone for voice and/or video calls, as well as increased access to other media on their devices.
- **Mobile applications (apps)**: There are myriad new apps that can be used as tools for communication and accessibility. The faculty and staff in the CSS department actively encourage and train students to use these apps to maximize their communication potential. Trending apps explored with students include those designed for automatic speech recognition, team communication, live captioning of mobile phone calls and real-time hearing device adjustment.
- **Virtual reality equipment/applications**: The CSS department continues to explore the use of virtual reality to practice public speaking and presentation skills. To improve access for deaf and hard-of-hearing students, the department has maintained relationships with app developers to explore adaptations.
- **Remote (off-location) hearing aid programming**: A current trend among hearing-aid manufacturers is the initiation of telehealth services through mobile applications. The audiologists at NTID recognize that some students may have limited access to hearing care while off campus and continue to investigate the use of tele-audiology apps to improve hearing aid outcomes.

CSS remains current with regard to emerging research on electroacoustic hearing configuration, or the use of both electrical stimulation (cochlear implant) and acoustic amplification (hearing aid). Research has suggested improvements in several areas, including music appreciation, general sound quality and speech understanding (particularly in noise). Acoustic components now are available for use with current speech processors from all three major cochlear implant companies, allowing for even more students to benefit from a cochlear implant, if they choose. NTID audiologists have been trained to work with these devices and counsel prospective candidates on expected outcomes.

This research also indicates that the benefits of electroacoustic hearing are observed even when the electric and acoustic stimulation are on opposite ears (bimodal configuration). The CSS faculty and staff have observed that many students coming to college with just one cochlear implant are curious about technology for the contralateral ear, but have either been discouraged from use of a second device or are nervous about the outcomes, due to an extended period of auditory deprivation on that side. The Audiology Center provides semester-long loans of current hearing aid technology so that students can decide whether a bimodal configuration is right for them.

In addition to departmental pursuit of ongoing training in communication-related topics, CSS faculty and staff are actively initiating or invited to participate in various research initiatives across the fields of audiology, speech-language pathology, accessibility and deaf education. Recent projects have focused on:

- bimodal amplification (simultaneous hearing aid and cochlear implant use) in the classroom;
- use of mobile applications to enhance cross-cultural communication;
- online learning initiatives for deaf learners;
- usability of automatic speech recognition for telephone captioning; and
- effects of cochlear implantation and sign language exposure on cognitive outcomes of young deaf adults.

A significant uptick in request for professional counsel and support for the University's LGBTQIA+ student population resulted in the creation of an ongoing collaboration between CSS speech-language pathologists and the University's Q Center. Informational workshops on topics such as voice identity and vocal health have been well received across the University community. Direct communication group sessions for gender-affirming voice coaching have been routinely frequented by students, hearing and deaf alike. Consulting and training of best practices is also shared internationally in Ethiopia, where a CSS audiologist and speech-language pathologist are routinely part of a volunteer initiative to empower a Deaf community in Ethiopia.

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.

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 135 sign language interpreters, 395 student notetakers each semester and 47 real-time captionists. In addition, unique access services are available for vision-impaired students.

Center for International Educational Outreach

Thomastine A. Sarchet-Maher, '03, '09, director

The mission of the Center for International Educational Outreach (IEO) at NTID is to share its expertise to help expand education opportunities for deaf communities outside of the United States. This is accomplished through partnerships and collaboration with deaf and hard-of-hearing leaders and institutions in other countries to build centers of excellence in deaf and hard-of-hearing education. International Educational Outreach works to establish and expand opportunities for RIT/NTID students and faculty to participate in cultural, academic, and research exchanges between NTID and international organizations involved in educating and employing deaf and hard-of-hearing people.

IEO was established in 2016 to maintain and expand the global network of partnerships developed by RIT/NTID through the Postsecondary Education Network-International and Pre-College Education Network projects funded by Japan's Nippon Foundation. The center's main focus is sharing knowledge and expertise on best practices in the education and employment of deaf and hard-of-hearing people. Further, the center has received external funding to provide curriculum development, technical assistance, research assistance, and workshops to deaf education professionals in several countries.

Innovation and Creativity at NTID (continued)

Research Projects

In FY 2019, IEO partnered with RIT/NTID faculty to lead one federally funded research project.

- <u>World Around You: International Collaborative Multilingual Sign Language Books</u>
  USAID-United States Agency for International Development: AID-OAA-A-13-00074 / PO31908
  3/24/2020–3/23/2022 $236,956
  PI: Christopher Kurz; Co-PIs: Stephen Jacobs, Kim Kurz, Thomastine Sarchet

  One of All Children Reading: A Grand Challenge for Development's most recent competitions is Begin with Books, launched in 2019 in partnership with the Global Book Alliance. Begin with Books is designed to create thousands of books in languages that children use and understand. The goal of this project is to create 200 digital books to promote early grade literacy for deaf and hard-of-hearing children in several countries. National partners include: the Philippines, Indonesia, Papua New Guinea, Fiji, Samoa, and Somalia. Each book will have six eligible sign languages (Filipino Sign Language, Indonesian Sign Language and other sign languages local to the archipelago, Somali Sign Language, Papua New Guinean Sign Language, Samoan Sign Language, and Fijian Sign Language). Books will be available on WAY (https://deafworldaroundyou.org/Stories) and Global Digital Library.

Global Partnerships

In FY 2019 the Center for International Educational Outreach conducted several outreach and partnership activities. IEO also hosted international delegations from South Africa, the Philippines, Japan, and China. These discussions led to the following initiatives:

- Establishment of a collaboration between RIT/NTID and the South African Ministry of Education to provide training to teachers of the deaf and sign language interpreters
- Establishment and piloting of joint certificate courses between RIT/NTID and their partner university, De La Salle – College of Saint Benilde in Manila, Philippines
- Collaboration with National University Corporation Tsukuba University of Technology on the establishment of an employment and job training center for the deaf in Japan
- Signing of a Memorandum of Understanding between RIT/NTID and Beijing Union University in China to support faculty and student academic and cultural exchanges

Workshops and Training

IEO personnel partnered with two universities to provide five presentations on international deaf education issues. IEO personnel led three international workshops, hosted one International Education Week event and attended one international conference.

NTID Performing Arts

For its 46th season in AY 2019-2020, NTID Performing Arts presented three main stage productions and various special events that involved more than 5,000 deaf, hard-of-hearing and hearing students, faculty, staff and Rochester community members as actors, dancers, theater technicians and front-of-house staff. These performances were attended by more than 6,878 people from throughout New York State as well as schools and community groups from neighboring states. This season included a joint production of *I and You,* directed by Andy Head, that won a 2020 Outstanding Production Ensemble Award from the Kennedy Center American College Theater Festival.

Innovation and Creativity at NTID (continued)

A deaf production created by Patti Durr and Karen Christie entitled *People of the Third Eye*, pictured here, also was staged. The final main stage production was *Dial M for Murder*, by Frederick Knott, directed by Dr. Luane Davis-Haggerty. The RIT Players had two different themed performances: one in August called *Rock Bottom* and another one in January called *Inside Out.* These 24-hour productions were written, directed and performed strictly by the Players themselves with auditions, which allowed new students to be involved in campus student groups.

Other student groups that performed in the Panara Theatre included Brick City Singers, Eight Beat Measure, Proof of Purchase (POP), and Vocal Accent, all of which are RIT-based a cappella groups. University of Rochester's Vocal Point, another a cappella group, were also guest performers. RIT student dance groups also performed on the Panara stage, including the Irish Roar Dancers and Vis Viva Dance Company, which participated in a *Came Here for Love* performance. All performances were very well attended with 200 or more people at each show.

- Special events in NTID's Panara Theatre this year included a special workshop with PUSH Theatre. A new documentary by Oscar-nominated, Peabody- and multiple Emmy-winning director and former RIT Trustee Irene Taylor Brodsky, *Moonlight Sonata: Deafness in Three Movements*, was also screened.
- A graduate of RIT/NTID, Thomas Macias '12, co-starred in a movie titled *Guest Artist* with actor Jeff Daniels; the movie won awards at several film festivals.
- The celebration of the 40th anniversary of RIT/NTID's Substance and Addiction Intervention Services for the Deaf also was held in the Panara Theatre along with special guest Marlee Matlin. This event was also a part of the college's Edmund Lyon Memorial Lectureship Series. Ms. Matlin presented on the topic of addiction and recovery, based on her 2009 book *I'll Scream Later*. NTID Performing Arts and Dyer Arts Center worked together to make this event successful with a sold-out audience.
- One of the final special events hosted in Panara Theatre for the Fall 2019 was Dr. James J. DeCaro's Celebration of Life Service.

NTID Performing Arts also provided support for the HCCEP/Tech Camps Welcome Ceremony; RIT's Residence Life team; NTID's Summer Vestibule Program (SVP); NTID's Explore Your Future (EYF) summer program for rising high school seniors; and NTID's New Student Orientation presentations. Support was also provided for the National ARTiculating Deaf Experiences Conference, Tri Sigma's Sign Idol, and space was provided for the Aliana Visalli Dance Company.

During AY 2019-2020, 403 students registered for, and attended, Performing Arts classes and online classes. Twenty-seven students were awarded performing arts scholarships and one student was awarded a performing arts certificate this past year.

In total, approximately 12,500 people were served by NTID's Performing Arts program during the 2019-2020 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 (https://deaf-art.org/). 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 (https://deafww2.com/). 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://heartdeaf.com/.

ARTiculating Deaf Experiences Conference

RIT/NTID ARTiculating Deaf Experiences Conference, an international conference of Deaf Cultural Studies and Signed Language scholars, convened from November 6-9, 2019 in the Panara Theatre at NTID. Keynote speakers and presenters from the United States and several other countries covered Deaf visual art, theatre, film and literature (signed and written), as well as Deaf history. To see the conference schedule and presentation abstracts go to https://www.rit.edu/ntid/adec#schedule-sessions. Video of presentations are forthcoming.

In addition to the conference, the Memorial Art Gallery, the main art museum in Rochester, NY, curated *De'VIA: The Manifesto Comes of Age*, an exhibition hosted in honor of Deaf View/Image Art's 30th anniversary and the 10th anniversary of Surdism (https://mag.rochester.edu/exhibitions/devia-the-manifesto-comes-of-age/). NTID's Performing Arts Department also produced an original play, *People of the Third Eye*, inspired by National Theatre of the Deaf's *My Third Eye* and Guy Wonder's sculptural works for Deaf Way I (https://peopleofthethirdeye.wordpress.com/).

Deaf Studies Archive

The RIT/NTID Deaf Studies Archive (https://library.rit.edu/archives/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 art. 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. Including, but not limited to, the papers of distinguished faculty, artwork by alumni and 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.

Innovation and Creativity at NTID (continued)

Thanks to a collective effort over the past year, the TRIPOD collection's finding aids and guides are now available on this website: https://www.rit.edu/ntid/radscc/tripod/. The website was made possible with support from Jeanne Behm '78, '80, RADSCC coordinator; Simon Ting, NTID web developer; RIT Libraries and RIT/NTID Deaf Studies Archives.

Founded in the Los Angeles area in 1982 by Megan Williams, the mother of two young deaf and hearing children, TRIPOD was intended to meet the complex educational needs of deaf children and their families. Based on Williams's concept of a holistic learning environment that removed barriers to communication, TRIPOD enjoyed the support of local philanthropists associated with the film industry. The TRIPOD Montessori Preschool opened its doors in 1984 with four pupils, but in 1989 was integrated as a public/private program with the Burbank Unified School District. As Williams's son grew, so did the program, ultimately serving more than 120 students.

TRIPOD is notable in deaf history as an early bilingual curriculum; supported by Carl Kirchner of California State University, Northridge, and Cindy Murphy of Gallaudet University in Washington, DC, both of whom are well-known and regarded educators of the deaf, TRIPOD sought to include deaf, hard-of-hearing, and hearing students in the classroom. Total Communication was selected as the instructional modality, in which hearing children model English acquisition, and all children acquire sign language skills together, overseen by deaf and hearing teachers.

Williams's son, the first student to be enrolled in the program, graduated in 1998; he, along with many other TRIPOD graduates, is a successful professional in his field. Hearing graduates have become excellent interpreters; deaf graduates have gone on to become artists, film producers, and teachers in their own right—some, including Williams's son, are also RIT/NTID alumni.

The TRIPOD model is now replicated in numerous public schools around the country.

The Deaf Studies Archive has posted the ASL Poetry and Literature streaming videos in its Digital Collections via https://digitalcollections.rit.edu/luna/servlet/RIT~7~7 in addition to the YouTube videos that were created last year (found among the Libraries' playlists at https://www.youtube.com/RITLibraries/playlists).

The YouTube videos listed above were the result of a Digitizing Hidden Collections grant from the Council on Library and Information Resources (CLIR) that was made possible by funding from the Andrew W. Mellon Foundation. The project was an institute-wide collaboration, with support from the NTID President's Office, NTID's Department of Cultural and Creative Studies and the Communications, Marketing & Multimedia Services team, as well as RIT Archive Collections and Libraries Metadata and Digital Scholarship Services. These rare videos are captioned, voiced, transcribed and signed for accessibility to all.

RIT ASL & Deaf Studies Community Center (RADSCC)

The RIT ASL & Deaf Studies Community Center continues to promote education, understanding and participation in the RIT/NTID deaf community by all members of the RIT/NTID 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 space, located in RIT's Wallace Memorial Center.

In November 2019, RADSCC's seventh annual DeafMute Banquet honored Abbe de l'Epee's 307th birthday and remembered RIT/NTID faculty and staff who had passed away over the course of NTID's 50 years of existence. NTID staff member Ken Finton was the master of ceremonies and a memorable slide presentation by Julie Cammeron and her team was shown during the banquet.

Due to the coronavirus pandemic, RADSCC events were put on hold in the spring of 2020.

Sunshine 2.0

Sunshine 2.0 is a professional traveling theater troupe based at NTID. The troupe provides performances and activities for deaf and hard-of-hearing children and adults that highlight the fields of science, technology, engineering, arts and math (S.T.E.A.M.), as well as educational topics pertaining to the Deaf experience. In FY 2020, Sunshine 2.0 visited 42 sites and hosted workshops and performances that involved 6,778 youth and adults in the following states: Alabama, Arkansas, California, Florida, Maryland, New York, Utah, Wyoming, and the District of Columbia. Also, Sunshine 2.0 hosted several virtual performances and workshops in partnership with eight sites. Sunshine 2.0 canceled shows at 15 sites from March to June due to the coronavirus pandemic.

Fred Beam '85, coordinator for Sunshine 2.0, attended the following conferences/festivals in FY 2020:
- Very Special Arts (VSA), the international organization on arts and disability, national conference in Irvine, Calif. where he was one of the committee members of the pre-conference
- Wyoming Registry of Interpreters of the Deaf in Casper, Wyoming
- SIGN FEST at Casper College in Casper, Wyoming
- SERID Conference in Huntsville, Alabama
- National Black Deaf Conference (NBDA) in Oakland, California
- Articulating Deaf Experiences Conference in Rochester, New York
- Rochester Fringe Festival (RFF) in Rochester, New York
- American Sign Language Teacher Association in San Diego, California
- Florida Sign Language Silent Weekend in Orlando, Florida
- California State University of Northridge Social Justice Event in Northridge, California
- It's A Deaf Thing Expo in Lakeland, Florida
- Midwest Regional DeafTech Program at Harper College in Palestine, Illinois
- Deaf Theater Action Plan in Boston, Massachusetts
- International Blacks in Dance Association (IBDA) Conference in Dayton, Ohio

At most of these conferences, Mr. Beam gave presentations on combining ASL, performing arts and/or STEM.

The conferences/festivals in which he planned to participate that were canceled included Rochester's Deaf Awareness Week festivities (of which he was a chairperson), Deaf Jamaican Education Conference, and Deaf People of Color Conference in Boston, Massachusetts.

Sunshine 2.0 also attended the SERID Conference, SIGN FEST, National Deaf Education Conference (NDEC), VSA, RFF NBDA, It's A Deaf Thing Expo and Midwest Regional DeafTech Program, to promote NTID, provided workshops related to STEAM and Deaf culture and gave public performances. Additionally, Sunshine 2.0 performed at the BioQuest Conference at NTID and participated in the ARTiculating Deaf Experiences Conference from November 6 to 9, 2019.

Sunshine 2.0 also provided presentations, workshops and performances to RIT/NTID students during the summer and fall of 2020.

ASLCORE

Specialized vocabularies used in academic disciplines often lack established ASL signs. Interpreters often fingerspell these words or develop ad hoc signs that can be unclear and potentially confusing. ASLCORE (https://aslcore.org) began with an NTID innovation grant in 2015 with the goal of developing and making available online new signs for advanced concepts in philosophy courses. After some initial success, the ASLCORE website expanded to include discipline-related terminology in art, biology, computer science, engineering, literature, physics and sustainability. All ASLCORE signs are generated by Deaf users of ASL via a team of Deaf content experts for that discipline and Deaf translators who have native fluency in ASL. With more than 1,500 total entries, ASLCORE also collaborates with a similar project, ASL Clear, a partnership between Boston University's Center for the

Study of Communication and the Deaf and The Center for Research and Training at the Learning Center for the Deaf in Framingham, Massachusetts.

Dyer Arts Center

In AY 2019-2020, the RIT/NTID Joseph F. and Helen C. Dyer Arts Center hosted 41 events. Thirty-three events were held in person until the coronavirus pandemic shut down the university. The staff at the Dyer Arts Center took the opportunity to successfully experiment with and develop several types of online events, eight of which have been hosted since April. The Deaf Queer Art Zoom reception had 150 people in attendance. Other online events included two panels titled Respeck Our Black Deaf Arts, an online painting party with Nancy Rourke, and receptions celebrating the launch of online exhibitions.

The Dyer Arts Center hosted eight in-person exhibitions and then transferred two of the exhibitions online and added two new ones using an online museum-exhibition platform called Omeka. Some notable exhibitions include *Color to the Cube*, an exhibition featuring works by deaf artists of color; *Deaf Queer Art*, an exhibition showcasing queer art by deaf artists, and *Black is Black: Blackity AF*, the first exhibition in a series exploring the Black Deaf experience.

In November 2019, the Dyer Arts Center collaborated with the Memorial Art Gallery (MAG) to host a physical exhibition called *De'VIA: The Manifesto Comes of Age*, which showcased selections from the Dyer Arts Center's permanent collection in the MAG's Lockhart Gallery. The exhibition ran for three months before closing in February 2020. In conjunction with the opening of the exhibition, the Dyer Arts Center's staff was heavily involved in the first international ARTiculating Deaf Experiences Conference.

Along with hosting exhibitions and events online, the Dyer Arts Center's social media presence has grown. The Dyer Arts Center's Instagram has had an increase of 645 followers and an increase of 272 followers on Facebook. The permanent collection has acquired 57 new pieces.

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* (textbook with accompanying DVD)
  Distributed by Dawn Sign Press

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

- *ASL Dictionary and Inflection Guide (iOS application and Android application)*
  Order online through the Apple Store or through Google Play

- 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

Intellectual Property (continued)

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

- *A Shining Beacon: Fifty Years of the National Technical Institute for the Deaf* (hardcover book)
  Distributed through NTID Communications, Marketing and Multimedia Services and RIT Press

Patents/Inventions and Copyrights

- U.S. Patent granted by U.S.P.T.O. for "Method for Determining Hearing Thresholds in the Absence of Pure-Tone Testing." Date of Patent: December 5, 2017. Patent Number: US 9,833,174 B2.

- Provisional Patent filed with U.S.P.T.O. for "Method for Measuring Sign Recognition Ability in Learners of American Sign Language (ASL) as a Second Language." Application date: July 18, 2017. Converted to non-provisional June, 2018.

- Trademark NTID Speech Recognition Test® (NSRT®).

- 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.

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

- Translation agreement to digitize and make publicly accessible more than 60 videotapes held in the RIT/NTID Deaf Studies Archive through a grant from the Council on Library and Information Resources (CLIR).

- "Method and System to Enhance Telecommunication Relay System for People with Disability" Provisional patent filed February 14, 2019. Converted to Non-provisional patent filed February 14, 2020.

- Trademark TigerChat™ in progress.
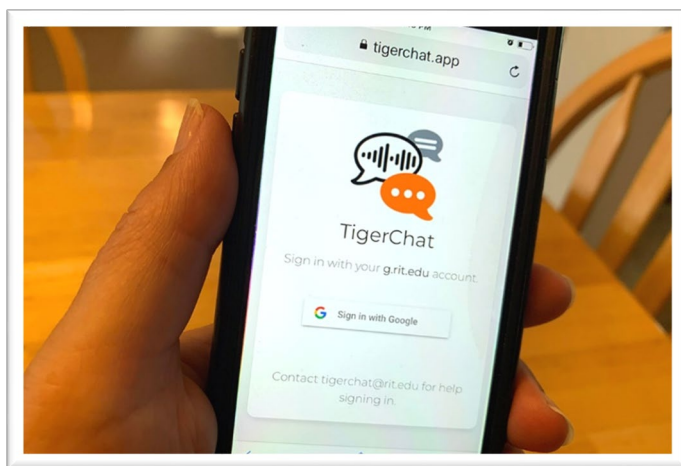
To help improve communication in the RIT community while face coverings are worn, RIT/NTID's Center on Access Technology Lab developed the TigerChat™ app.

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.

Outreach Highlights

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

Pre-College Outreach Programs

Due to the coronavirus pandemic's impact on university operations, all six employees of NTID's Outreach unit have been working from home since March 19, 2020. One employee visits campus once a week to check incoming mail and to print required reports. The department holds weekly Zoom meetings as well as one-on-one meetings between the department head and individual staff members.

Outreach is responsible for arranging camps and competitions for deaf and hard-of-hearing middle and high school students. Due to the pandemic, several programs had to be canceled: Math Competition, TechBoyz and TechGirlz, and Health Care Careers Exploration Program. The flagship program of the department, Explore Your Future, provided two virtual sessions with a reduced number of registrations.

Outreach is currently working on several virtual programs for the fall and spring. FutureQuest is a one-hour webinar for students and parents to learn how a college-bound student can prepare for their first semester. A virtual math competition is being developed for the fall for individual students, as well as a spring program that will mirror the annual in-person competition.

This summer's Virtual Explore Your Future hired student workers on a much smaller scale than the in-person events of the past. When the camp was hosted on campus, expenses associated with hospitality, instructional supplies, and room and board were significant. Since all on-campus events were canceled after March 2020, there were significant savings in all related budget lines.

- During FY 2020, NTID faculty and staff conducted three outreach programs: the SpiRIT Writing Contest for students in grades 10–12; Explore Your Future, a summer program for students in grades 10–11; and the Digital Arts, Film and Animation Competition for students in grades 9–12.

- 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 (Computing), Artistic, Social, Enterprising and Investigative (Science). 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 7,058 students have participated in EYF over the past 36 years. Thirty percent of the summer 2019 participants subsequently enrolled at NTID. Two virtual sessions were offered in summer 2020. This year's participants came from 29 states and Canada.

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 2019 through September 2020, there were approximately 2,187 email dialogues and 175 phone call discussions with C-Print Product Development. The C-Print website received 15,736 visits from October 2019 to September 2020. NTID provides 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 for online training and software totaled 62 from October 2019 through September 2020.

Outreach Highlights

- The NTID Office of Alumni & Constituent Relations plans and implements strategies for engaging alumni and other constituents through social and professional-development events, volunteer opportunities, and other activities, both on campus and in targeted regions around the country. With counsel from, and in collaboration with, members of the NTID Alumni Association Board of Directors, Alumni & Constituent Relations works to build and maintain connections between NTID and its more than 9,000 alumni. NTID retirees and parents of current students are also included in events, activities and engagement initiatives. AY 2019-2020 had 1,300+ alumni and guests participating in more than 30 activities and events. The coronavirus pandemic proved a particular challenge this year; although the start of AY 2019-2020 saw the usual receptions, networking events, and presentations in person, many events and gatherings moved online beginning in March and took place virtually through the remainder of the year.
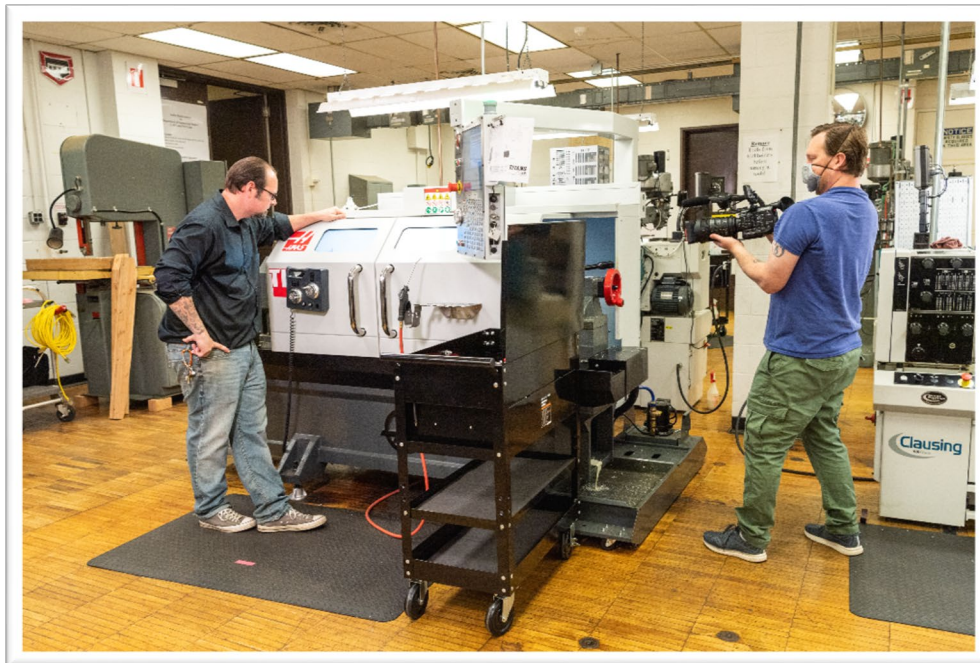
Department of Engineering Studies lecturer Mark Davis '03, '17 demonstrates equipment used in the Precision Manufacturing Technology program for a video to be shown as part of Virtual EYF in summer 2020.

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 2020, RIT/NTID welcomed more than 153 middle school and high school students and their parents from all over the country to three pre-college outreach efforts. Participation is expected to grow annually as marketing and other promotional efforts continue.

Parents, students, and teachers alike had high praise for the 2020 competitions and camps. With the success of these initiatives, RIT/NTID is well on its way to its goal of making outreach a central focus; sharing 50 years of expertise in access services, program development and the application of technology; and ensuring 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

Only one entry was submitted to the 2020 Digital Arts, Film and Animation Competition in Film for students in grades 9-12. This winner received a cash prize and a plaque.

Math Competition

RIT/NTID's national Math Competition for middle school students challenges math skills, develops self-confidence and rewards achievements. The intent of the competition is to foster interest in mathematics.

Due to the coronavirus pandemic, this contest was canceled in April 2020 and will be retooled into virtual competitions for fall 2020 and spring 2021.

SpiRIT Writing Contest

RIT's 16th annual SpiRIT Writing Contest for deaf and hard-of-hearing students attracted submissions from 16 students in grades 10–12 from around the United States in May 2020. Students and their teachers submitted portfolios of the students' best work. The winners received a $500 cash prize.

TechGirlz and TechBoyz Camps

These week-long summer camps give girls and boys the opportunity to learn more about careers in science and technology-related fields. They build their own computers, learn how to program a robotic car, learn how to make educated money decisions and become versed in Adobe programs.

Due to the coronavirus pandemic, the summer 2020 sessions of TechGirlz and TechBoyz were canceled.

Pre-College Outreach AY 2019-2020			
	Total Participants	Minorities	
		Number	Percent
Explore Your Future	136	64	47%
SpiRIT Writing Contest	16	2	12%
Digital Arts, Film and Animation	1	0	0%

NTID Regional STEM Center

The mission of the NTID Regional STEM Center (NRSC) is to promote exposure to STEM for middle and high school deaf and hard-of-hearing students in Science, Technology, Engineering and Mathematics (STEM) fields. The ultimate goal is to increase post-secondary participation for deaf and hard-of-hearing students in STEM fields, resulting in substantial employment. Congress authorized this project to establish a formal regional partnership with at least one organization in the southeastern United States to expand the geographic reach of activities and services supported by NTID consistent with NTID's mission and strategic plan. NTID has contracted with the Alabama Institute for Deaf and Blind (AIDB) since November 2016 to serve as the NTID Regional STEM Center-Southeast (NRSC-SE). The region served by this partnership includes Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee and Texas. Additional programming can be provided outside the 12-state region on a case-by-case basis.

The NRSC targets five specific groups:

Students and Families
Camps and activities offered to deaf and hard-of-hearing middle- and high-school students include but are not limited to: robotics tournaments, GenCyber camps, coding activities, STEM days and fairs, ACT Testing Strategies training, marine biology camps, Explore Your Future camps, FutureQuest workshops, TechBoyz and TechGirlz camps, and Health Care Careers Exploration programs. NTID's annual Math Competition also targets deaf and hard-of-hearing middle-school students (canceled in 2020 due to the coronavirus pandemic). There is also a new and growing focus on student transition programming. Scholarships are offered for participation in camps and activities, as well as sponsorships for external STEM camps and activities. Sunshine 2.0, a theater troupe, has also traveled throughout the Southeast region and across the country, offering STEM-related performances and workshops.

Teachers
NRSC has provided support for state, local and regional conferences on education of deaf and hard-of-hearing secondary and postsecondary students, with an emphasis on STEM topics. In addition, NRSC have partnered with Communication Services for the Deaf (CSD) to offer webinars featuring deaf and hard-of-hearing professionals in STEM-related fields, accompanied by downloadable toolkits and lesson plans for educators. NRSC is also providing support for NTID's national Project Fast Forward dual-credit program for high schools serving deaf and hard-of-hearing students.

Vocational Rehabilitation (VR) Personnel
NRSC staff have provided training, consultations and visits to VR personnel, and NRSC-provided travel funding has brought VR personnel to the RIT/NTID campus to learn about available programs and services. A full-time VR specialist also was hired to do outreach and training.

Sign Language Interpreters
NTID employs a full-time STEM interpreter trainer who organizes and provides professional training activities, exchange programs and mentorship for educational trainers on STEM topics.

Employers
NTID Center on Employment (NCE) conducts training for employers, ranging from private corporations to non-profits, and visits job sites where students have worked. The team also attends various conferences, educating leaders about hiring and working with deaf and hard-of-hearing employees and how to make workplaces more accessible. In collaboration with Gallaudet University, National Association of the Deaf and CSD, NCE staff also offer a series of virtual seminars on employment-related topics.

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 (Computer), Artistic, Social, Enterprising and Investigative (Science).

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 7,194 students have participated in EYF over the past 36 years. Thirty percent of summer 2019 participants subsequently enrolled at NTID. Two virtual sessions were offered in summer 2020. This year's participants came from 29 states plus Canada.

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Number of Participants	199	203	179	212	136
Percentage of Minorities	47%	55%	51%	57%	47%
Percentage Enrolling at NTID*	46%	49%	27%	30%	N/A**

"EYF 2020" forged by a machine in the Precision Manufacturing Technology program.

---

*   Since EYF participants are juniors and seniors, the percentage of an EYF cohort that enrolls at NTID is recalculated each year to capture additional enrollments.

** Students from EYF 2020 currently are in the process of applying to NTID.

Explore Your Future – Enrollment by Location

Summer 2020 EYF students represented 28 states,
the District of Colombia and Canada.

Home State or Country	Number in EYF Summer 2020
Arizona	1
California	30
Colorado	1
Connecticut	1
Delaware	1
District of Columbia	1
Florida	3
Georgia	2
Illinois	3
Kentucky	1
Louisiana	1
Maryland	11
Massachusetts	4
Michigan	2
Minnesota	4
Mississippi	1
Missouri	2
New Jersey	4
New York	20
North Carolina	2
Ohio	2
Oregon	1
Pennsylvania	11
South Carolina	2
Texas	10
Vermont	1
Virginia	5
Washington	1
Wisconsin	6
Ontario, Canada	1
Total	**136**

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 award 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. In August 2019, a three-year DeafTEC Resource Center was awarded to RIT to continue and disseminate the work of DeafTEC.

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 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
      Harper College, Palatine, Illinois
      Caterpillar, Inc., Peoria, Illinois

Florida
      Florida School for the Deaf and the Blind, St. Augustine
      Florida State College at Jacksonville, Jacksonville
      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 developed by the NTID Center on Employment (NCE) 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.

Partner-Led Professional Development. In FY 2020, DeafTEC partners offered 24 workshops to 417 participants.

- Seven *Project Access* workshops to 51 educators
- Six *Writing in the Disciplines* workshops to 115 educators
- Nine *Promoting Student Success in Math through Best Practices* workshops to 175 educators
- Three *Working Together* workshops to 76 employees

To date, DeafTEC partners have offered 208 workshops to a total of 3,399 attendees from 36 states.

Website Development

The DeafTEC website (https://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. A newly redesigned, more accessible DeafTEC website following WCAG AA standards, the standard for section 508 compliance, was launched on March 24, 2020. We are constantly updating materials to keep the website current. Two significant additions to the site this year include:

1. A new page containing over 30 resources for accessible online teaching and learning was added on March 20. This resource list was assembled by the DeafTEC partners and is being updated regularly.
2. A new video featuring deaf professionals working in the solar energy field and related career materials developed by Austin Community College were added to the STEM employment section.

Working Together: Deaf and Hearing People Online Course

Two hundred sixteen people have registered for the Online Working Together Course (http://workingtogether.deaftec.org/); 159 completed at least one of the modules with 97 finishing all of the modules and 87 completing the survey to receive a Certificate of Completion and a digital badge. To date, 621 people have registered for the course, 435 have taken at least one module, 228 have finished all modules and 121 have completed the survey and received a Certificate of Completion and a digital badge.

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. Project Fast Forward transitioned from DeafTEC to NTID Academic Affairs during February of 2020. The program is primarily funded by the NTID Regional STEM Center for all STEM-related courses. 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 AY 2019-2020, 54 dual credit course sections were offered at seven new schools and 18 established schools. All of the current Project Fast Forward school partners are listed below:
    1. Alabama Institute for Deaf and Blind, Talladega, Alabama
    2. American School for the Deaf, West Hartford, Connecticut
    3. Arkansas School for the Deaf, Little Rock, Arkansas
    4. Arizona State Schools for the Deaf and Blind, Tucson, Arizona
    5. Atlanta Area School for the Deaf, Atlanta, Georgia
    6. California School for the Deaf, Fremont, California
    7. California School for the Deaf, Riverside, California
    8. Cypress Ridge High School, Houston, Texas
    9. Delaware School for the Deaf, Newark, Delaware
    10. Eastern North Carolina School for the Deaf, Wilson, North Carolina

11. Florida School for the Deaf and the Blind, St. Augustine, Florida
12. Georgia School for the Deaf, Cave Spring, Georgia
13. Hinsdale South High School, Hinsdale, Illinois
14. Indiana School for the Deaf, Indianapolis, Indiana
15. The Learning Center, Framingham, Massachusetts
16. Lexington School for the Deaf, Jackson Heights, Queens, New York
17. Marlton School for the Deaf, Los Angeles, California
18. Maryland School for the Deaf, Frederick, Maryland
19. McNeil High School, Round Rock, Texas
20. Metro Deaf School, St. Paul, Minnesota
21. Mill Neck Manor School for the Deaf, Mill Neck, New York
22. Minnesota State Academy for the Deaf, Faribault, Minnesota
23. Model Secondary School for the Deaf, Washington, DC
24. Pennsylvania School for the Deaf, Philadelphia, Pennsylvania
25. Phoenix Day School for the Deaf, Phoenix, Arizona
26. New Mexico School for the Deaf, Santa Fe, New Mexico
27. New York School for the Deaf, White Plains, New York
28. North Carolina School for the Deaf, Morganton, North Carolina
29. Oklahoma School for the Deaf, Sulphur, Oklahoma
30. Ohio School for the Deaf, Columbus, Ohio
31. Plano Senior High School, Plano, Texas
32. Rhode Island School for the Deaf, Providence, Rhode Island
33. Rochester School for the Deaf, Rochester, New York
34. Tennessee School for the Deaf, Knoxville, Tennessee
35. Texas School for the Deaf, Austin, Texas
36. University High School, Irvine, California
37. Utah Schools for the Deaf and the Blind, Ogden, Utah
38. Vines High School, Plano, Texas
39. Washington School for the Deaf, Vancouver, Washington
40. Western Pennsylvania School for the Deaf, Pittsburgh, Pennsylvania

- **Dual-Credit Courses.** The following courses were developed for high schools to teach and earn their students RIT/NTID college credit. The CAD Applications course was offered in the 2018-2019 academic year, but could not be offered in 2019-2020 due to a lack of qualified teachers. For the 2020-2021 academic year, the course will be taught by three high school teachers at two high schools.
    1. *Applications Software*: An introduction to word processing, spreadsheet, presentation and database applications
    2. *Web Development I*: An introduction to Web page development, including XHTML and Web graphics
    3. *PC Hardware I*: An introduction to the fundamental hardware concepts of personal computer (PC) systems, including their structure and components
    4. *Introduction to Programming:* An introduction to the fundamental concepts and terminology of computer programming
    5. *Page Layout I:* An introduction to page layout applications to produce pages and documents to given specifications
    6. *Raster/Vector Graphics:* Introduces the skills needed for the successful production and manipulation of raster and vector images using image creation and production software
    7. *Blueprint Reading:* An introduction to the skills necessary to read and interpret fundamental engineering drawings of details, subassemblies and assemblies
    8. *Engineering Graphics:* Introduces the skills needed to create professional 2D mechanical, architectural and civil drawings using AutoCAD software
    9. *CAD Applications:* Introduces skills using computer-aided drafting (CAD) as a tool to generate 2D graphics and 3D solid models
    10. *Mathematics in Society:* An exploration of mathematical thinking and procedures including applications to real world situations and using problem-solving skills

11. *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
12. *Processes of Science: Biological Studies:* An introduction to science processes using biology content as a vehicle to establish an appreciation of the scientific method, critical thinking and problem solving
13. *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
14. *Personal Finance:* Provides students with basic financial literacy so they can develop sound financial management of their personal income as well as an understanding of the economic events that can influence their financial well-being and society as a whole.

- **Courses Taught and Credit Earned.** During the 2019-2020 academic year, 54 course sections were taught at 25 partner high schools with 306 deaf and hard-of-hearing high school students enrolled in those courses with 65 students enrolled in more than one course for dual credit bringing the total to 371 registered. Of these students, 179 students or 58% of the total successfully completed their dual-credit course and earned three RIT credits. The coronavirus pandemic had an impact on high school teachers' ability to satisfy NTID course objectives in the transition to remote instruction. Some high schools reported their students did not have access to the software and hardware at home in order to complete coursework, which is why the passing rate for 2019-2020 is significantly lower compared to previous years. 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 2020:

  o 276 dual-credit course sections were taught by 98 teachers in their high schools.
  o 1,678 registrations were recorded in Project Fast Forward courses.
  o 1,282 unique deaf and hard-of-hearing students participated in the program.
  o 396 deaf and hard-of-hearing students took more than one course.
  o 1,027 (61%) of students enrolled in dual-credit courses received passing grades.
    • When removing teacher errors, 69% of students received passing grades.
  o 3,081 RIT/NTID credits were awarded to deaf and hard-of-hearing students.

In the 2020 academic year, 28 dual credit participants matriculated at RIT/NTID compared to 19 students during the 2019 academic year.

For 2020-2021, 104 students are registered in 18 course sections thus far. It is unclear how many course sections will be offered this year due to the coronavirus pandemic.

- **Professional Development.** Offered to high school teachers from partnering high schools. Teachers receive technical training on course content and teaching methodologies and on improving access for deaf and hard-of-hearing students in mainstream classrooms. Both teachers and counselors also receive training on selected STEM career opportunities for deaf and hard-of-hearing individuals and on the dual-credit program.

In June 2020, training was offered virtually to 23 new Project Fast Forward high school teachers and 11 returning Project Fast Forward high school teachers. There were five new high school partners present at the training. Due to the pandemic, the training for high school counselors was not offered. During the 13 summers of Project Fast Forward, 2007-2020, the following numbers of teachers and counselors have participated in summer professional development:
  o 125 teachers from 41 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 169 teacher trainings.

DeafTEC (continued)

        o   44 guidance counselors attended summer professional development activities to work with students taking dual-credit courses in their high schools.

Student Veterans with Hearing Loss

DeafTEC has created the *Project Good to Go: Teaching Student Veterans with Hearing Loss* (PG2G) website (https://good2go.org/), which serves as a national resource for community college faculty by providing best practices for teaching student veterans with hearing loss in STEM classes. The website currently contains expanded information on *DeafTEC's Top Ten Things that Student Veterans Would Like Faculty to Know* document. This document is the result of student veteran participation in focus groups and surveys and is the underpinning of the related professional development offering. This year the PG2G team has made four presentations to 139 college faculty and staff related to the *Top Ten* list.

The PG2G team also presented a webinar, "Top Ten Tips for Teaching Student Veterans from the Classroom to Online" on July 14, 2020 from 3:00-4:30 PM ET. Eighty people registered for the webinar, and 49 attended.

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 163 employer representatives received training through the NTID Center on Employment (NCE) in AY 2019-2020.

Employer Training and Educational Programs

The NTID Center on Employment conducted, delivered and presented five programs for 163 human resources professionals and company representatives.

NTID Career Fair

The 19th annual NTID Career Fair was held in October 2019 with 48 employers attending and close to 300 students and alumni participating. During this fair, four 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

The program was canceled due to the risk of contracting COVID-19.

Outreach to Employers

- Supported three engineering students plus one faculty member in participating in the Solar Turbines Training Academy/Shadow Day in San Diego, California, in October 2019.
- Exhibited and networked with more than 20 employer representatives at the SHRM Diversity & Inclusion conference in New Orleans, Louisiana, in October 2019
- Presented "Working with STEM Employers" to 33 participants at the Southeast Regional Institute on Deafness conference in Huntsville, Alabama, in October 2019.
- Met and interacted with more than 50 employer representatives at the Virtual Disability:IN Conference in July 2020.

NCE Marketing Highlights

- Developed news releases and articles to promote employer participation in the NTID Career Fair.
- Reviewed and revised the program marketing pieces, NCE brochure and NCE website (https://www.rit.edu/ntid/nce/) to ensure content was up to date.
- Posted current relevant information on the NCE Facebook page.
- Created a LinkedIn page for employers to connect with NTID Center on Employment.
- Featured student and recent graduate success stories on the NCE website at least once a month.

Faculty and Staff

As of fall 2020,
31 percent of NTID's
workforce was eligible
for retirement.

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 2020, NTID employed 561* faculty and staff, down from 574 in fall 2019.

Number of NTID Employees by Year

---
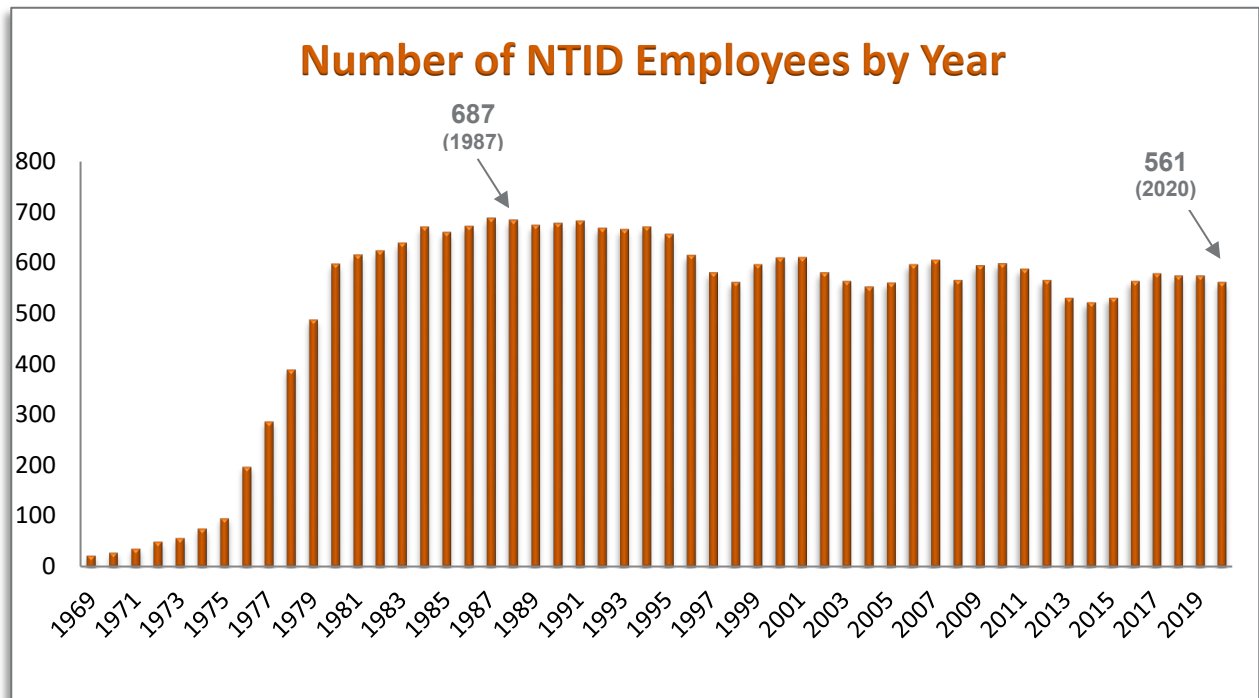
*   Of the 561 employees, 547 are covered by NTID's non-research/grant funds.

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* FY 2020
Faculty		
Professor	15	$108,397
Associate Professor	39	$90,139
Assistant Professor	23	$73,147
Principal/Senior Lecturer	37	$70,210
Lecturer	37	$61,267
Subtotal Faculty	**151**	**$77,407**
Staff		
Exempt Staff	125	$66,880
Non-Exempt Staff	285	$48,139
Subtotal Staff	**410**	**$53,853**
Total	**561****	**$60,193**

---

* Average salary calculations are based on the standard full-time schedule for each faculty/staff category. Individual variances are adjusted to the same scale.

** Of the 561 employees, 547 are covered by NTID's operating funds.

Tenure-Track Positions and Faculty Rank

In FY 2020, senior-level faculty members (professor and associate professor) comprised 74% of all ranked tenure-track faculty as compared to 47% in FY 1985. Of the 68 tenure-track positions, 87% are tenured.

Rank	Number of Tenure-Track Positions*					FY 2020 Faculty with Tenure	
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Number	Percent
Professor	26	24	20	20	15	15	100%
Associate Professor	36	33	33	35	35	35	100%
Assistant Professor	30	28	22	20	18	9	50%
Total Positions	**92**	**85**	**75**	**75**	**68**	**59**	**87%**

---

* 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 2020,
94% of full-time, tenure-track faculty members held
graduate degrees.

FY 2020 Highest Degree Level Achieved Tenure and Tenure-Track Faculty*		
	Number	Percent
Doctorate	35	51%
Master's	29	43%
Bachelor's	4	6%
Total	**68**	**100%**

---

* 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 13.5 years of service at NTID. As of October 2020, 31% are eligible for retirement.**

FY 2020

	Percent Full Time	Average Age	Average Length of Service	Currently in Retirement Transition
Professor	100%	63.1	30.1	0
Associate Professor	97%	56.2	23.2	2
Assistant Professor	100%	48.6	13.2	3
Principal/Senior Lecturer	97%	50.4	16.3	1
Lecturer	97%	44.9	4.9	0
Exempt Staff	100%	47.4	13.6	1
Technical/Clerical	86%	48.2	11.4	3
Interpreter	84%	42.9	14.2	2
Real-Time Captionist	19%	43.0	8.3	0

*   Data not available for all faculty and staff.
**   More information about RIT's retirement eligibility policies can be found at https://www.rit.edu/fa/humanresources/retirement.

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 2016	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**
Full-Time:					
Faculty	7	10	4	8	10
Exempt Staff	14	11	4	5	4
Non-Exempt Staff*	32	7	24	12	20
Total Full-Time	**53**	**28**	**32**	**25**	**34**
Part-Time:					
Faculty	3	1	0	1	0
Exempt Staff	1	1	0	0	0
Non-Exempt Staff*	15	39	7	5	1
Total Part-Time	**19**	**41**	**7**	**6**	**1**
Total	**72**	**69**	**39**	**31**	**35**

---

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

Faculty and Staff

Faculty and Staff Terminations

The faculty and staff turnover rate, 11.2%, is almost the same as last year. Retirements of current faculty and staff are expected to rise as the employee base ages.
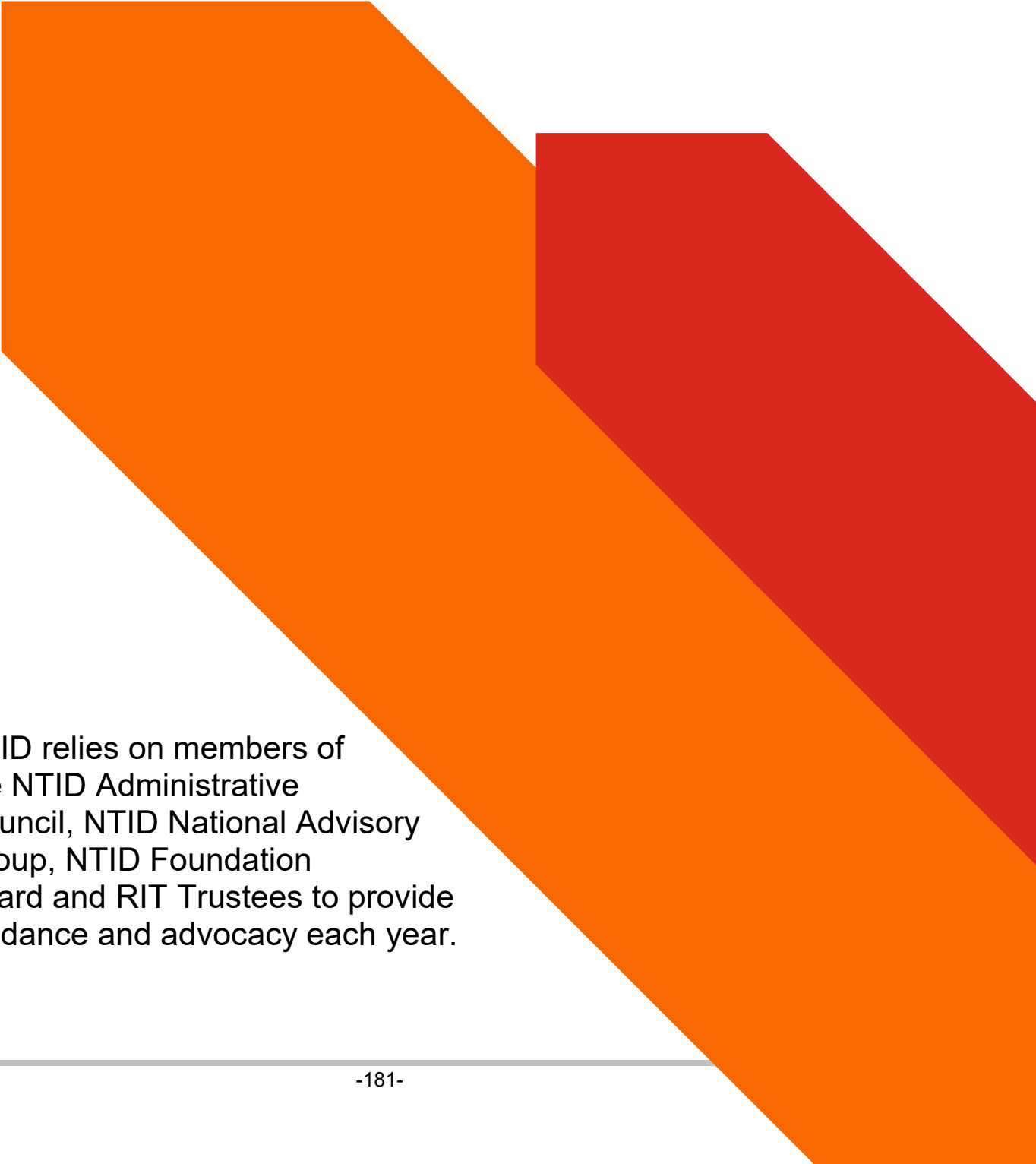
Full-Time/Part-Time	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020 Percent	FY 2020 Number
Faculty	8.8%	10.4%	9.0%	7.1%	8.6%	13
Exempt Staff	4.0%	4.5%	10.4%	10.3%	6.4%	8
Non-Exempt Staff*	9.4%	10.3%	12.6%	14.0%	14.7%	42
Total	**8.0%**	**9.0%**	**11.1%**	**11.3%**	**11.2%**	**63**

Johnnie "JB" Brown, a longtime RIT employee who primarily worked in NTID's LBJ Hall, retired this year. He founded and managed an annual Black History Month potluck luncheon and lecture popular with many NTID faculty and staff. In honor of his legacy, NTID established the Johnnie "JB" Brown Black History Month Celebration Endowment Fund in 2019 to ensure the tradition continues.

---

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

RIT/NTID Leadership

NTID relies on members of the NTID Administrative Council, NTID National Advisory Group, NTID Foundation Board and RIT Trustees to provide guidance and advocacy each year.

NTID Administrative Council*

Dr. Gerard J. Buckley '78
President, NTID;
Vice President and
Dean, RIT

Dr. Alesia Allen '04
Assistant Vice President for
NTID Diversity and Inclusion

Gary Behm '78, '81
Associate Vice President for
Academic Affairs

Dr. Pamela Carmichael '04
Assistant Vice President of
Communications, Marketing
and Multimedia Services

Dr. Peter Hauser
Assistant Dean for Research
Mentorship

Dr. Joseph Hill
Assistant Dean for ALANA
Faculty Recruitment and
Retention

Linda L. Hoke
Executive Assistant to
the President

Bernard Hurwitz, J.D.
Associate Vice President for
NTID Administration

Dr. Denise Kavin
Assistant Dean and Executive
Director of NTID Outreach,
Placement and Special Projects

Dr. Mary Karol Matchett '88
Assistant Vice President
for Student and
Academic Services

---

* The following individuals also served on the NTID Administrative Council in FY 2020: Pamela Christopher '90, '93, '02, Interim Director of Diversity and Inclusion, and Marianne Gustafson, Associate Dean for Curriculum and Special Projects.

NTID Administrative Council (continued)

Bill McGee '80, '82
Assistant Vice President for
Finance and Budget

Dr. Todd Pagano
Associate Dean for Teaching
and Scholarship Excellence

Dr. Rico Peterson
Assistant Dean and Director of
NTID Access Services

Dr. Robert Pollard
Associate Dean
of Research

**Thomastine Sarchet-Maher
'03, '09**
Assistant Dean of ALANA
Outreach, Access and Success

Dr. Kathryn Schmitz '95
Senior 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
Chief Executive Officer, Bender Consulting Services, Inc.

Tina Childress
Educational Audiologist, Urbana School District

History Estill-Varner '14
Co-Executive Director, Discovering Deaf Worlds, Inc.

Ernest E. Garrett III
Superintendent, Louisiana's Special School District; Chairman, Louisiana Commission for the Deaf

Cham Leang '03
Project Manager, U.S. Federal Government

Dr. Christopher Lehfeldt
Dentist, Elmwood Dental Group, P.C.; *Chair*

Pamela Lloyd-Ogoke '81
Chief of Community Integration Services and Supports, North Carolina Division of Vocational Rehabilitation Services

Norma Morán
Hands and Voices, Latino Deaf Hard of Hearing Association of the Metropolitan DC (LDHHAMDC), Kendall Parent Teacher Association (KPTA)

Mary Beth (Barber) Mothersell '85
Senior Customer Relations Manager, Sprint Relay

Karen Putz
Business Owner, Ageless Passions

Annette Reichman
Superintendent, Arizona State Schools for the Deaf and Blind

Robert Sidansky '77
Telecommunications Access for the Deaf and Disabled Administrative Committee (TADDAC)

Kathleen Treni
Principal, Continuum of Services for Deaf and Hard of Hearing Students, Bergen County Special Services District

Scott Van Nice
Senior Manager, Proctor & Gamble

Dr. Scott Wills
Research Scientist, Dow Chemical Company

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
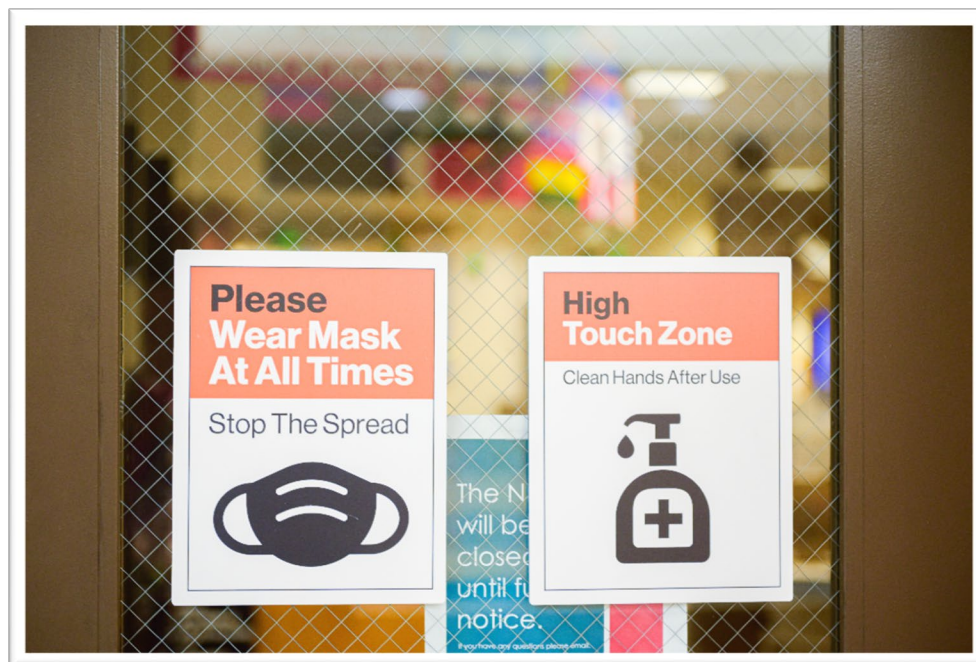
Due to the coronavirus pandemic, NTID's National Advisory Group canceled their spring 2020 meeting and met remotely in fall 2020.

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:

Ed Baumann
Vice President, Software Quality, NetSuite

Lisa Baumann

Gary Behm '78, '81
Interim Associate Vice President, NTID Academic Affairs

Dr. Gerard J. Buckley '78
President, NTID; Vice President and Dean, RIT

Shraddha Chaplot

Jinnie C. DeTrani
Psychologist, Former School Counselor

Joseph DeTrani
Ambassador, retired
Board of Managers, Sandia National Laboratories
Professor, Missouri State University
Department of Defense and Strategic Studies

Michael Ellis
Global Director, Accessibility, Sprint

Sean P. Flanagan
Sr. Customer Business Manager, Bayer Consumer Care

Sue Flanagan
Volunteer Event Coordinator

Sarah Gordon '07
Dean of Students, Rochester School for the Deaf

Gordon Hewitt '73, '75
Retired Chief for Strategic Enterprise Initiative Branch, U.S. Dept. of Homeland Security

Daniel Kaiser
Partner, Kaiser Saurborn & Mair, P.C.

Jill Kaiser, LCSW
Psychotherapist

James Kinsley
Management Consultant
Adjunct Professor, St. John's University

NTID Foundation Board (continued)

Sharon Kinsley
Deputy Chief of Staff & Deputy Director, Office of the Administrator, United Nations Development Programme

Kathleen Martin
Retired Director of Policy Review and Development, RIT Human Resources

Jeff McCaw '89
Chief Financial Officer, SourceAmerica

Jay McHarg
CEO, AeroSafe Global

Barbara Montan

Matthew S. Moore '83
President, MSM Productions, Ltd.
Chairperson, NTID Performing Arts Advisory Committee

Bruce Schilling
Broker Associate, Compass

Kay Schilling
Principal, El Dorado Associates

Chris Soukup
Chief Executive Officer, Communication Services for the Deaf

James Stefano
Retired President, Synergy Global Solutions, Inc.

Rosa Lee Timm, '00
Chief Marketing Officer, Communication Services for the Deaf

James Tourangeau
District Manager, Sorenson Communications, Inc.

Sherri Turpin
Chief Executive Officer, ZVRS

Christopher D. Wagner '94
Chief Operating Officer, Customer Experience, ZVRS; *Chair*

George D. Webb
Retired Senior VP of Operations, Great West Life Insurance Company

Sandra Weintraub

Steven J. Weintraub, M.D.
Medical Director, Department of Anesthesia, North Shore LIJ

Dan Younkman

Lori Younkman
Owner, Entrepreneur, Danori Inc.

RIT Administrative Council

Dr. David C. Munson, Jr.
University President

Karen Barrows '04
Chief of Staff

Dr. Gerard J. Buckley '78
President, NTID; Vice President and Dean, RIT

Enid Cardinal
Senior Advisor to the President for Strategic Planning and Sustainability

Phil Castleberry
Vice President, Development and Alumni Relations

Dr. Lisa Cauda
Vice President and Secretary

Robert Finnerty
Associate Vice President of University Communications

Dr. Ellen Granberg
Provost and Senior Vice President for Academic Affairs

Dr. Keith Jenkins
Vice President and Associate Provost for Diversity and Inclusion

Dr. Sandra S. Johnson
Senior Vice President for Student Affairs

Joe Johnston
Ombudsperson

Ian Mortimer
Vice President for Enrollment Management and Associate Provost for Adult and Online Education

Dr. Ryne Raffaelle
Vice President for Research

Deborah M. Stendardi
Vice President for Government and Community Relations

John Trierweiler
Vice President and Chief Marketing Officer

Dr. James H. Watters
Senior Vice President for Finance and Administration

RIT Board of Trustees Active Trustees

Results of Financial Operations

Tuition, room, board and fee collection constituted approximately 24% of NTID's total operating revenue in FY 2020.

Financial Operations Highlights

During FY 2020, NTID continued to enhance its impact by growing programming and operations in line with its primary and secondary missions while managing resources efficiently. This effort resulted in a decrease in total expenses of .1% below FY 2019 levels. NTID's 2020 Federal appropriation increased 2.8% over FY 2019 funding. As always, NTID exercised prudent cost management to keep costs to a minimum.

As footnoted on the next page, the full fiscal 2020 Federal Appropriation for NTID was $79.5 million. The $5.5 million not included in the statement of financial operating results was specifically designated for outreach efforts in the Southeast United States. In February 2017, NTID and the Alabama Institute for Deaf and Blind (AIDB) formalized a partnership and began aggressive efforts to execute the planned outreach activities. To date, all of the $2 million in outreach funding for FY 2016, FY 2017 and FY 2018 has been expended. Expenditures of approximately $2.3 million were made against FY 2019 outreach funds as of September 30, 2020. None of the funds from this outreach effort are reflected in the statement of financial operating results.

Total Personnel Compensation for FY 2020 decreased approximately $219,000 (.4%) below FY 2019 levels. This decrease is due to a $1.5 million reduction in total wages, offset in part by a $1.2 million increase in the cost of benefits.

Total RIT Services decreased by approximately $3,191,000 (9.5%) below FY 2019, primarily as a result of a $2,314,000 (27.9%) decrease in Residence Hall/Food Services/Student Services costs and a $1,165,000 (11.2%) decrease in cross-registered tuition charges paid to RIT.

Total Other Expenditures increased by approximately $3.3 million (20.7%) above FY 2019. This increase was primarily due to the net result of a year-to-year increase in capital projects expenditures of $1.4 million (193.6%), Plant funds of $2.8 million (59.5%) and financial aid of $395,000 (12.3%), offset by decreases to support expenditures of $1.3 million (19.0%) and matching endowment of $8,000 (2.4%). NTID continues to plan for and schedule needed renovations and upgrades to its approximately 50-year-old facilities. As these enhancements continue, there was a higher volume of funding for facility projects in FY 2020 compared to the previous fiscal year.

NTID's FY 2020 financial results continue to demonstrate its strong commitment to excellent stewardship of resources and sound financial management and oversight.

Financial Operating Results

	FY 2019	FY 2020	Variance $	Variance %
EXPENSES				
Personnel Compensation Expenditures				
Salaries and Wages	$35,525,136	$34,066,298	($1,458,838)	-4.1%
Benefits	12,252,133	13,491,990	1,239,857	10.1%
Total Personnel Compensation	**$47,777,269**	**$47,558,288**	**($218,981)**	**-.4%**
RIT Services Expenditures				
Direct:				
Residence Halls/Food Service, Student Services	$8,279,017	$5,965,127	($2,313,890)	-27.9%
Cross-Registered Tuition	10,374,585	9,209,906	(1,164,679)	-11.2%
Physical Plant Services	2,510,284	2,339,924	(170,360)	-6.7%
Indirect:				
Overhead	12,377,450	12,835,457	670,714	5.4%
Total RIT Services	**$33,541,336**	**$30,350,414**	**($3,190,922)**	**-9.5%**
Other Expenditures				
Support Expenditures	$6,873,146	$5,566,658	($1,306,488)	-19.0%
Grant Cost Shares	0	0	0	0%
Financial Aid	3,210,403	3,605,276	394,873	12.3%
Capital	732,557	2,150,429	1,417,872	193.6%
Matching Endowment	362,598	353,855	(8,743)	-2.4%
Plant Fund	4,686,133	7,475,414	2,789,281	59.5%
Total Other	**$15,864,837**	**$19,151,632**	**$3,286,795**	**20.7%**
Total Expenses	**$97,183,442**	**$97,060,334**	**($123,108)**	**-.1%**
REVENUE				
Federal Appropriation*	$72,000,000	$74,000,000	$2,000,000	2.8%
Non-Federal Funds	25,183,442	23,060,334	(2,123,108)	-8.4%
Total Revenue	**$97,183,442**	**$97,060,334**	**($123,108)**	**-2.1%**

---

* The FY 2019 and FY 2020 Federal Appropriations were $77,500,000 and $79,500,000 respectively. The $5,500,000 not included in the FY 2019 and FY 2020 totals were specifically designated for outreach efforts in the Southeastern United States.

Tuition, Room, Board and Other Fees

The tuition rate increased by 3.8% while the rates charged for room, board and fees increased by 3.3% for a total combined rate increase of 3.6%. These non-federal resource collections constituted approximately 24% of NTID's total operating revenue.

	Rates Charged Students				
	FY 2017	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**
Tuition	$15,140	$15,730	$16,518	$17,162	$17,814
Room	7,162	7,376	7,596	7,902	8,140
Board	5,338	5,524	5,662	5,800	6,000
Fees	544	562	584	646	676
Total	**$28,184**	**$29,192**	**$30,360**	**$31,510**	**$32,630**
Collections	$26,432,000	$25,465,566	$25,342,080	$23,060,334	*
Enrollment (Fall)	1,300	1,262	1,182	1,129	1,101
Collections Per Student	**$20,332**	**$20,179**	**$21,440**	**$20,425**	*

The masked statue of RIT's tiger mascot, RITchie, served as a helpful reminder of RIT's campus-wide mask mandate.

---

* As of the writing of this report, the collection information for FY 2021 is incomplete.

Financial Aid
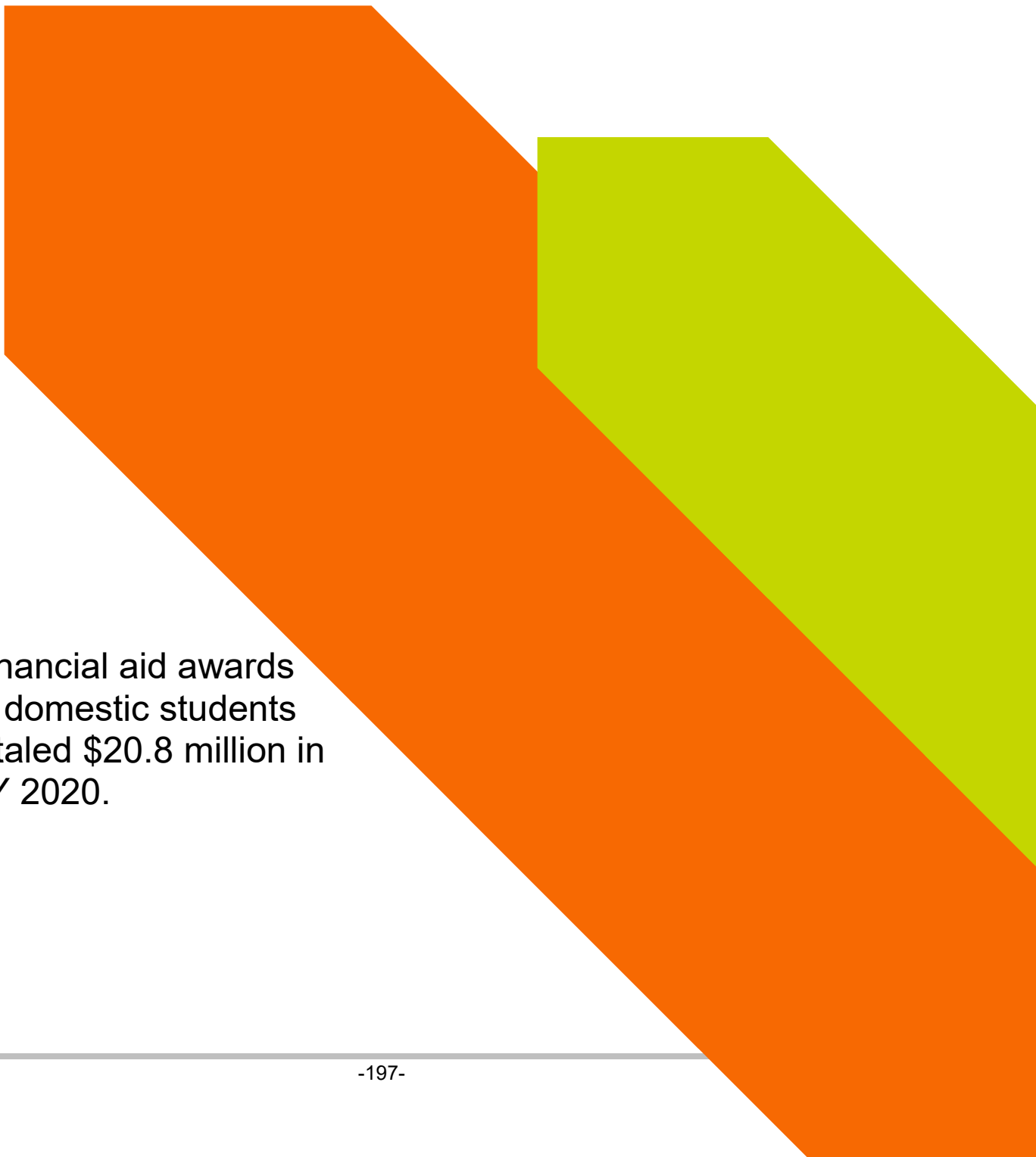
Financial aid awards to domestic students totaled $20.8 million in FY 2020.

Financial Aid (Domestic Students)

Financial aid awards to domestic students totaled $20.8 million in FY 2020, a 3.8% decrease from FY 2019. Institutionally sponsored aid increased in FY 2020 by 2.0% and state and federal support decreased by 5.3%. Loans taken out by domestic students decreased by 9.6%, and the number of awards, including loans, decreased compared to FY 2019. Overall, the average financial aid (excluding loans) per domestic student decreased by 2.1% in FY 2020.

SOURCE OF AID	2019		2020		
	Awards*	Amount	Awards*	Amount	Amount Diff %
INSTITUTIONALLY SPONSORED SUPPORT					
Grant-in-Aid:					
NTID Grant-in-Aid	284	$1,488,692	285	$1,575,856	5.0%
RIT Grant-in-Aid	21	100,000	22	84,187	-15.8%
Subtotal Grant-in-Aid	305	$1,588,692	307	$1,660,043	3.7%
Scholarships:					
NTID	489	$1,568,058	459	$1,847,614	17.8%
RIT	99	253,963	121	303,614	20.0%
NTID Endowments	905	$2,778,177	806	$2,481,824	-9.3%
External Groups	97	232,822	83	224,913	-3.4%
Subtotal Scholarships	1,590	$4,833,020	1,469	$4,857,965	1.4%
Subtotal Institutionally Sponsored Support	**1,895**	**$6,421,712**	**1,776**	**$6,518,008**	**2.0%**
STATE AND FEDERAL SUPPORT					
Grants:					
Pell Grants	503	$2,492,605	485	$2,353,799	-5.6%
State Grants	194	483,487	187	511,115	5.7%
Subtotal Grants	697	$2,976,092	672	$2,864,914	-3.7%
Other Federal Support:					
Vocational Rehabilitation	708	$8,951,676	668	$8,409,863	-6.1%
Federal Work Study	33	65,681	39	78,941	20.2%
Subtotal Other Support	741	$9,017,357	707	$8,488,804	-5.9%
Subtotal State and Federal Support	**1,438**	**$11,993,449**	**1,379**	**$11,353,718**	**-5.3%**
LOANS					
Subsidized Federal Student Loan	391	$1,387,286	333	$1,206,249	-13.0%
Unsubsidized Federal Student Loan	366	1,270,231	319	1,158,681	-8.8%
Parent PLUS Loans	59	$589,327	47	$571,733	-3.0%
Subtotal Loans	**816**	**$3,246,844**	**699**	**$2,936,663**	**-9.6%**
TOTAL ALL FINANCIAL AID	**4,149**	**$21,662,005**	**3,854**	**$20,808,389**	**-3.8%**
Domestic Student Enrollment		**1,080**		**1,071**	**-3.7%**
Average Financial Aid per Student		**$20,057**		**$19,429**	**-0.1%**
Average Financial Aid per Student Excluding Loans		**$17,051**		**$16,687**	**-2.1%**

* Students receive more than one form of aid; therefore, the numbers of awards (grants, loans, scholarship, etc.) outnumber the student body.

External Funding Sources
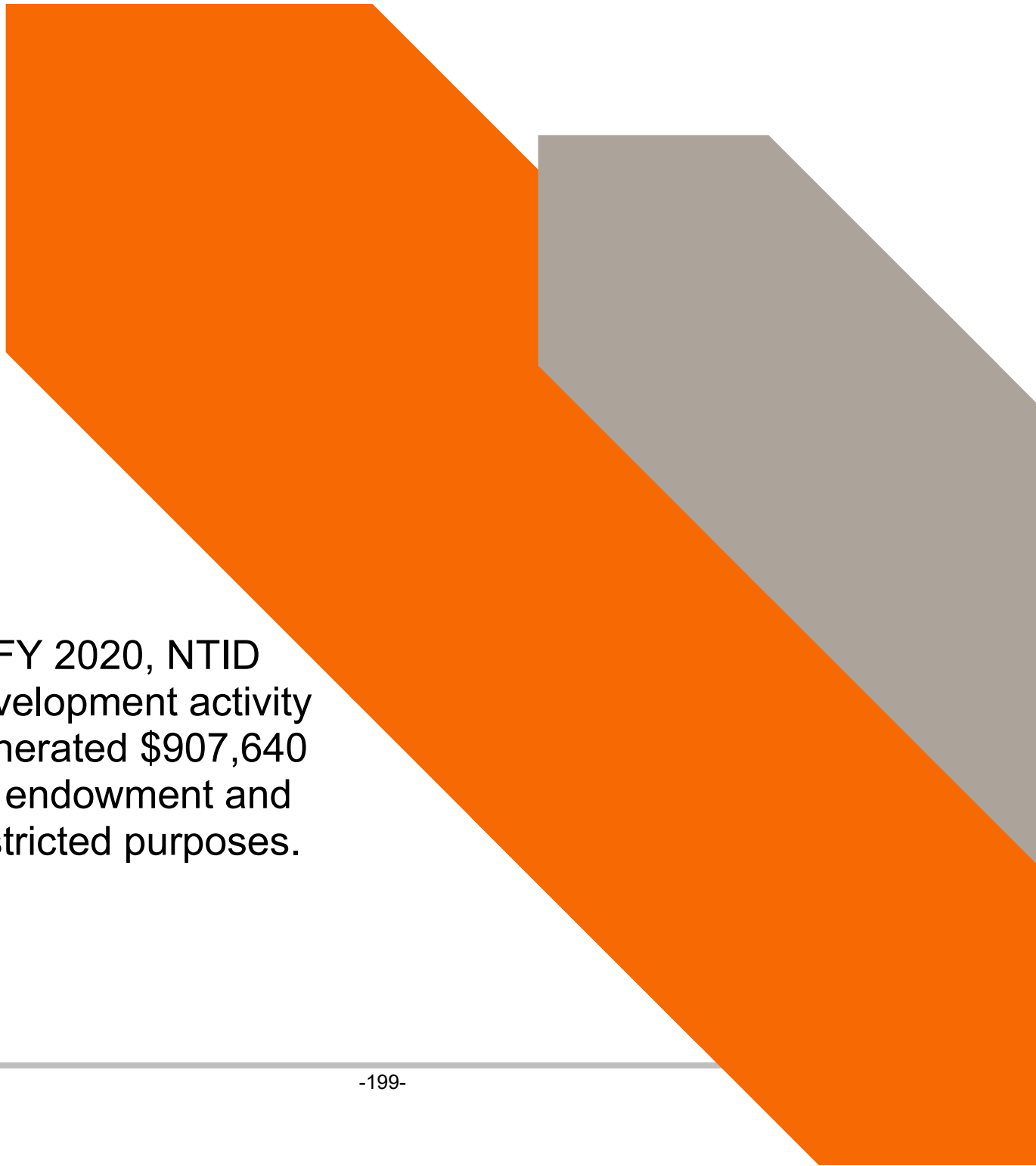
In FY 2020, NTID development activity generated $907,640 for endowment and restricted purposes.

The NTID Foundation

NTID received $1,236,549 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, the Dyer Arts Center, and a variety of research and pre-college outreach programs.

Contributions of $10,000 and above received during FY 2020 include:

Alabama Institute for Deaf and Blind
Mrs. Renate K. Alpert
Anonymous
Ms. Jane D. Bolduc '82
The Estate of Dr. Bernard Bragg
The Estate of Ms. June M. Clase
Dow Chemical Co. Foundation
Easter Seals Inc.
Mr. Andrew R. Jacobson '90, '96
Jephson Educational Trust
Daisy Marquis Jones Foundation
Maguire Foundation
Dr. Sharon A. Meyers
Motorola Solutions Foundation
Mr. Philip Rubin '72 and Mr. Clifford White
Mrs. Eileen Schultz
Sorenson Communications, Inc.
Dr. and Mrs. Benjamin J. Soukup
Mr. Guan Wu and Ms. Yufang Liu
ZVRS

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 2020, NTID development activity generated $907,640 for endowment and restricted purposes. Of that amount, $353,855 was matched with federal dollars and directed toward NTID's endowed scholarship funds.

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Endowment and Restricted Funds	$450,505	$683,466	$872,054	$1,337,139	$907,640
Equipment and Software	$43,738	$20,530	$40,717	$100,728	$29,243
Total	**$494,243**	**$703,996**	**$912,771**	**$1,437,867**	**$937,283**

NTID distributed see-through masks to students and staff to facilitate better communication. Though the masks can fog up, people are better able to see facial expressions in ASL as well as read lip movements in spoken English.

NTID Endowment Programs

A total of $907,640, including matching federal funds* of $353,855, was added to the Federal Matching Endowment Fund corpus in 2020. The market value of NTID's Federal Matching Endowment portfolio stands at $67,099,063.

The market value of NTID's total endowments, which include privately raised funds prior to the establishment of the Federal Matching Endowment program, is $83,138,590.

Value as of September 30, 2020

	Contributed Value	Market Value
Funds Subject to Federal Investment and Spending Guidelines		
Private	$3,746,868	$6,823,638
Federal	$3,032,143	$5,948,953
Subtotal	$6,779,011	$12,772,591
Funds No Longer Subject to Federal Investment and Spending Guidelines	$24,102,025	$54,326,472
Total Federal Endowment	**$30,881,036**	**$67,099,063**

Other Endowments	Contributed Value	Market Value
Private	$11,929,540	$16,039,527
Total Endowments	**$42,810,575**	**$83,138,590**

---

* 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.

Stephanie S. Albert Memorial Endowed Scholarship Fund

Dorothy E. Ann Fund (D.E.A.F.) Endowed Scholarship Fund

Anonymous Endowed Scholarship for Undergraduate Students in Science and Mathematics

Anonymous Endowment for NTID Faculty Research in Science and Mathematics

Barlow Endowed Scholarship Fund

Alice Beardsley Memorial Endowed Scholarship Fund for Interpreting Students at NTID

Behm Family Endowed Support Fund in Student Innovation, Technology, and Research

Ned Behnke Memorial Endowed Scholarship Fund

Frank P. Benz Jr. Memorial Scholarship

Doris W. Blanchard Endowed Scholarship Fund

Jane D. Bolduc Endowed Scholarship

Farid Bozorgi Memorial Endowed Scholarship Fund

Andrew and Mary Brenneman Annual Scholarship

Gladys Brooks Endowed Fund for the Laboratory Science Technology Program

Johnnie Brown (JB) Black History Month Celebration Endowment

Dr. Gerard Buckley Student Leadership Endowment

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

James and Patricia DeCaro Endowed Scholarship

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

DSK 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

Scholarships, Endowed Funds and Estate Commitments (continued)

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 Endowed Scholarship Fund

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 Fund for Health Care Education

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

Maguire Scholars Program at NTID

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

Alvina Narkin Endowment

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 Anonymous #21 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 Performing Arts Endowed Scholarship Fund

NTID President and Dean's Scholarship for Academic Excellence

NTID Scholarship Fund

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

Sally J. Pimentel Endowed Scholarship

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

Ryoichi Sasakawa / James J. DeCaro Endowed Scholarship Fund

Scholarships, Endowed Funds and Estate Commitments (continued)

Edward L. Scouten Endowed Fund for English Literacy

Wilfrid and Isabel Searjeant Endowed Scholarship Fund

Shelby Center for Excellence Scholarship Fund

Mu Zeta Chapter of Sigma Nu 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 Endowed Scholarship Fund

Frank B. Sullivan Exemplary Business Student Award

Frank B. Sullivan Outstanding Graduate Business Student Award

Frank B. Sullivan Outstanding Student in Business Award

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

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

James Ventimiglia Memorial Printing Award Endowed Fund

Elizabeth W. Williams Endowed Fund for the Performing Arts

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

WSK Endowed Scholarship Fund

Wu/Liu Family Endowed Scholarship

Grants and Contracts

During FY 2020 NTID submitted 17 new grant proposals requesting a total of $6,693,986 in funding. Four of these proposals were funded for a total of $1,355,476; seven proposals are still pending; six proposals were not funded.

As of September 30, 2020, the annual reimbursed expenditures of all grants and contracts at NTID totaled $2,928,693 with a total value of $18,759,065 over the lives of the projects.

Project Title	Grant Provider	Year	Amount FY 2020	Total Value
Rochester Prevention Research Center	National Institutes of Health	1/5	$8,924	$47,350
Renewal of DeafTEC: Technological Education Center for Deaf and Hard-of-Hearing Students	National Science Foundation	5/5	$412,382	$4,160,638
Facilitating Knowledge Building in Cooperative Learning of Statistics in Mixed Teams with Deaf/Hard of Hearing and Hearing Students	National Science Foundation	5/6	$64,246	$499,830
Deaf STEM Community Alliance: Supporting Postsecondary Deaf and Hard-of-Hearing Students in Science, Technology, Engineering, and Mathematics	National Science Foundation	1/1	$113,292	$1,770,022
Development of Temporal Visual Selective Attention in Deaf Children	National Science Foundation	4/4	$21,019	$458,350
RoadMAPPs to Careers: A New Approach to Mobile Apps Education featuring a Mapp for Deaf and Hard-of-Hearing Students	National Science Foundation	4/5	$145,702	$851,754
Collaborative Research: Accessible STEM Instruction with Deaf Students: Supporting Faculty in Pedagogical Exploration and Innovation	National Science Foundation	4/5	$59,718	$443,200
RIT-RISE Scientists-in-Training Program for Deaf and Hard-of-Hearing Undergraduates	National Institutes of Health	3/5	$191,625	$1,453,074
REU SITE: Summer Undergraduate Research for Students who are Deaf or Hard-of-Hearing in Applying Mathematical and Statistical Methods to Problems from the Sciences	Department of Education	3/4	$10,863	$504,260
Neurocognitive Plasticity in Young Deaf Adults: Effects of Cochlear Implantation and Sign Language Exposure	NYS Department of Health	3/5	$356,809	$2,101,515
Investigating Key Biopsychosocial Factors that Mediate Lifespan Management of Pre-Lingual Deafness	National Institutes of Health	3/3	$60,349	$564,590
Unveiling hidden companions in post-AGB stars: 3D simulations of evolved star binaries	National Aeronautics and Space Administration	3/3	$8,648	$95,034
Pregnancy Outcomes and Experiences Among Deaf and Hard of Hearing Women	National Institutes of Health	3/5	$5,455	$70,796
Collaborative Research: Multimethod Investigation of Articulatory and Perceptual Constraints on Natural Language Evolution	National Science Foundation	3/3	$77,063	$354,322
Perkins V Formula Funding	Department of Education	1/2	$37,721	$55,841

Grants and Contracts (continued)

Project Title	Grant Provider	Year	Amount FY 2020	Total Value
Augmented Reality: Accessible Dynamic Informal STEM Learning for Deaf and Hard-of-Hearing	National Science Foundation	3/3	$79,324	$258,861
World Around You: International Collaborative Multilingual Sign Language Books	United States Agency for International Development / World Vision	1/2	$5,160	$236,956
Collaborative Research: Opening the Pathway to Technician Careers: A Conference for Biology Teachers of Deaf Students	National Science Foundation	2/2	$80,692	$184,844
DCL: NSF INCLUDES EAGER: A Study of Online Scientific and Scholarly Communities for Broadening Participation in STEM	National Science Foundation	2/2	$110,402	$299,347
AccessATE: Making Community College Technical Education More Accessible for Everyone	National Science Foundation	2/2	$22,068	$139,475
DeafTEC Resource Center	National Science Foundation	2/3	$199,286	$1,649,928
Rochester Bridges to the Doctorate for Deaf and Hard-of-Hearing Students	National Institutes of Health / University of Rochester	2/5	$239,150	$1,161,992
Impact of Deafness and Language Experience on Visual Development	National Institutes of Health	2/2	$90,021	$127,708
MITRE FCC Telecommunications Relay Services (TRS) - Tasks 1-6	Center for Medicare & Medicaid Services / MITRE Corporation	2/2	$452,628	$975,159
Lost in Translation: Removing barriers for deaf participation in STEM fields	Gordon and Betty Moore Foundation	2/4	$76,144	$294,219
Total			**$2,928,693**	**$18,759,065**