

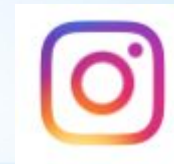
Leadership NISD

November 2022



Kelley Broughton
Director of Career & Technical
Education

Follow us on Social Media!



Learn more at our [CTE Website](#)



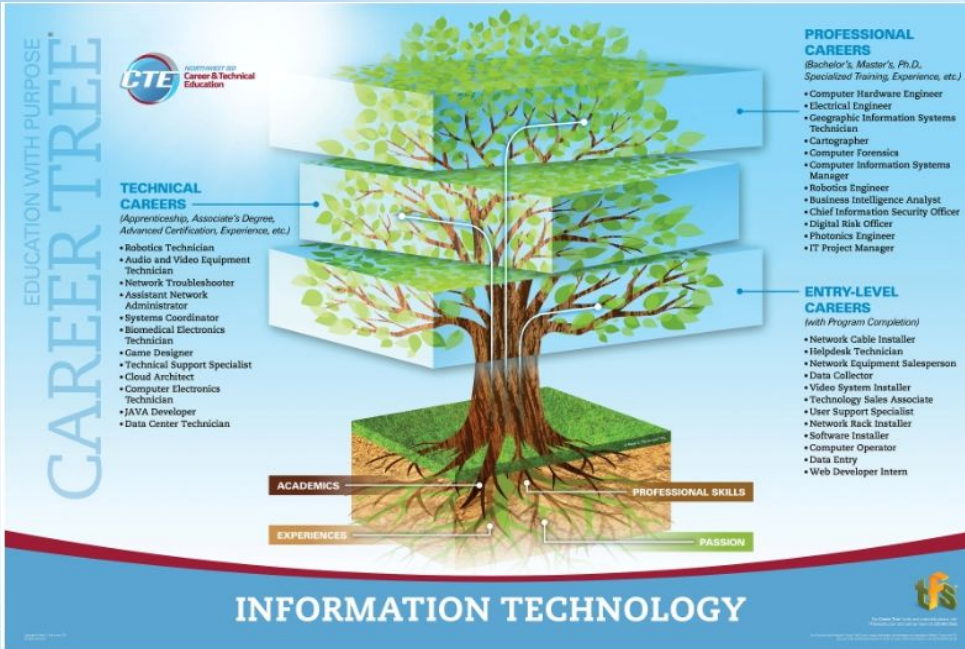
27 Opportunities

Agricultural Design and Fabrication	Education and Coaching
Agricultural Sciences	Emergency Medical Technician
Architectural Design	Engineering Dynamics
Aviation and Aeronautics Academy	Floral Design
Biomedical Sciences Academy	Health Sciences
Business Administration	Information Technology
Business and Entrepreneurship Academy	Interior Design
Collegiate Academy	Investment Banking and Finance
Cosmetology Academy	Marketing Dynamics
Counseling and Mental Health	Microsoft Master
Creative Media Production Academy	Software Design and Development
Culinary Arts and Hospitality Academy	STEM Academy
Digital Media	Veterinary Medicine
Early Childhood Development	

ASPIRE. ADVANCE. ACHIEVE.

We offer 23 different opportunities in the way of programming. Many of these opportunities have additional programs of study.

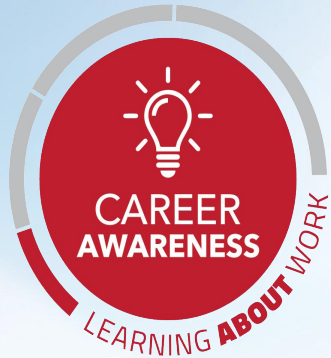
Example Creative Media Production Academy is one opportunity that has three different programs to choose from: graphic design, TV/film, and commercial photography.



Our career tree conversations help students navigate each of the programs of study available for their future while reinforcing the skills necessary to navigate any future decisions. We ensure all of our programming supports the root system of our tree with strong academics, professional skills, experiences and passion.

See Career Trees in Action:
[Career Trees Overview](#)

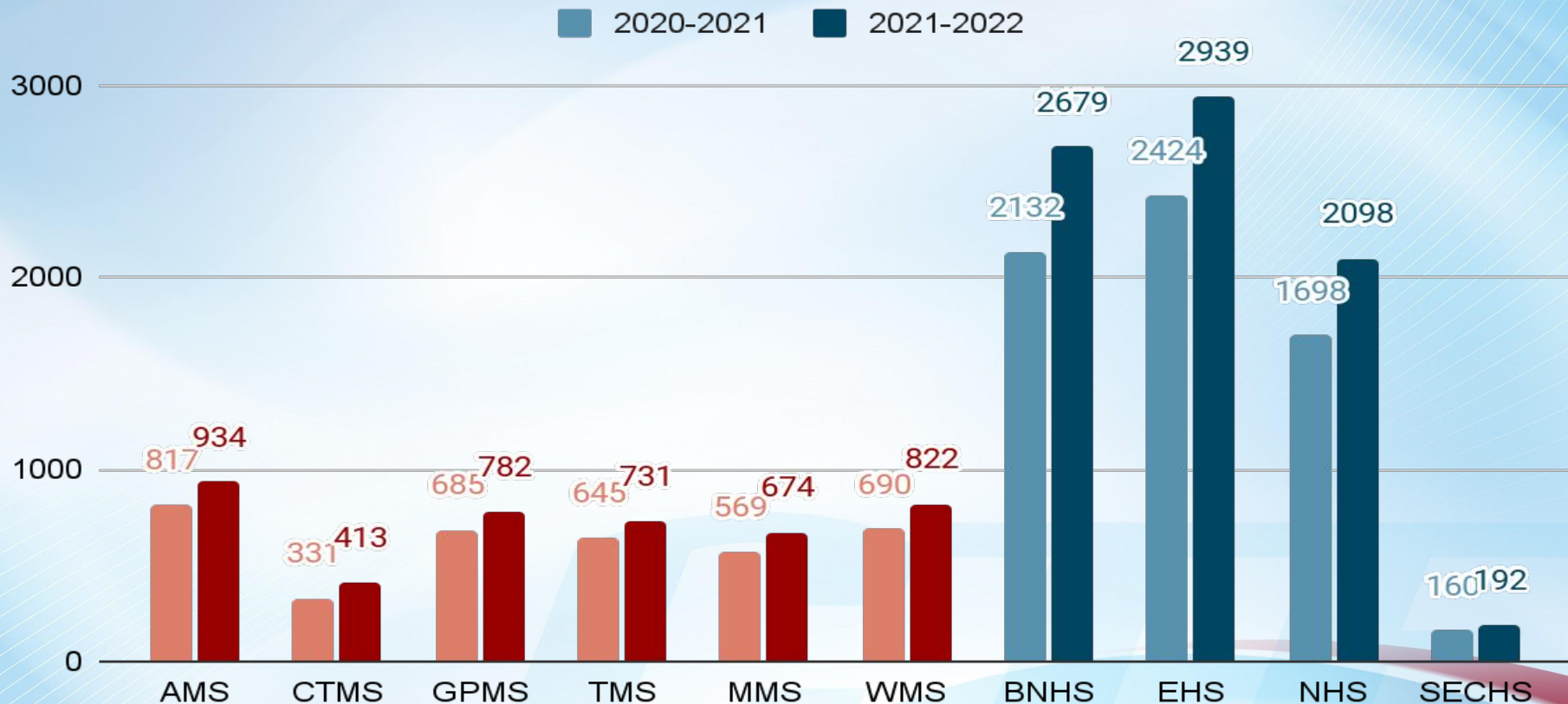
Building real skills NOW!



We offer four levels of courses for every program of study.

These icons represent how each program of study evolves for a student to prepare to meet the demands of the root system of the career tree. When looking over the academic planning guide you will see these icons to help guide the conversation about what that course covers/offers.

Student Enrollment



WE CERTIFY HERE.



Number of Student Earned Certifications:

2015 = 83

2018 = 3,086

2020 = 3,243

2021 = 3,457

2022 = 4,151

4,000+



Internships

At Northwest ISD CTE, we believe every student should get real: real academics, real skills, and a real high school experience unlike any other. By combining strong academics with robust career-minded education, we expand students' options and opportunities to make them truly future ready. Together with parents, business leaders and the community, we challenge all students to aspire to their full potential, advance with rigorous academic and technical skills, and achieve a real-world competitive advantage.

The Internship program is designed to expose students to real world situations and develop skills that will prepare them to make decisions about their post-secondary future. It is the capstone course for students that are completing a coherent sequence of courses within their specific career pathway and it is divided into three important components: classroom instruction, workplace instruction, and credentialing certifications.

Program Objectives:

- To assist students in making career choices - This includes exploring today's job market, setting personal goals, and developing an individual career portfolio.
- To assist students in basic workplace practices - This includes safety, workplace ethics, communication skills, and professionalism training.
- To assist students in professional development - This includes work relationship training, leadership skill development, problem-solving and thinking-skill development, technology applications, and time management skill development.
- Students will work toward industry recognized certifications in their field of study (examples: OSHA, CVA Level I and Microsoft certifications)

If you are interested in becoming an instructional worksite for our interns, please let us know and we will contact you with more details!



NORTHWEST ISD
Career & Technical
Education

More than **400**
students
annually receive
internship/field
experiences with
more than 60
business and
industry partners.

PROUD
INTERN PARTNER
FOR **NORTHWEST ISD**





Student Enterprises

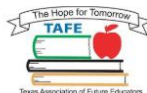


The **competitive advantage** starts at home!

We offer student run business opportunities to practice our real skills while giving back to our community. The professional opportunities are high quality and work to ensure industry standards.



Student Organizations



Applied extended learning opportunities exist for our students.

*Making a name for NISD CTE
State & Nationally!*

Our Career and Technical Student Organizations are designed to help students take theoretical learning and technical skills and apply them in competitive settings, while promoting scholarship and achievement.

CTE Student Competition Results

State & Nationally Recognized Competitors



- **TAFE - Education Programs**

- BNHS - 4 State Champions competing in Nationals June 23 - 25th in Washington, D.C.

- **FFA - Ag Programs**

- EHS 9th in State
- BNHS - 14th in State

- **STN - CMP Academy**

- 4th in the Nation for Virtual Storytelling

- **HOSA - Health Science Programs**

- BNHS - 3 State Qualifiers

- **VEI - BME Academy**

- All 3 Companies are Top 50 in Nation
- 3 Teams placed Top 25 in Nation
- Social Media Team 5th in Nation
- Virtual Business Team 4th in Nation

- **DECA - Business Programs**

- EHS 24 State Qualifiers
- BNHS 7 State Qualifiers

- **FBLA - Business Programs**

- 3 State Champions
- First State Officer elected to serve the State of Texas for the 22-23 School Year

CTE Student Competition Results

State & Nationally Recognized Competitors



- **MOS National Qualifiers - SECHS Business**
 - Competing in June @ Nationals in Grapevine
 - 1st Place at State - Word
 - 1st Place at State - Powerpoint
 - 1st Place at State - Excel
 - 2nd place at State - Excel
 - 3rd place at State - Excel

- **STEM ACE Competition**
 - STEM students won the Architecture, Construction & Engineering Competition
 - 1 Student received a \$5000 Scholarship



CTE Ambassadors

Frequently Asked Questions

What is a CTE Ambassador?

A CTE Ambassador is a student who is "the face" of Career and Technical Education (CTE) in NISD. They champion their CTE program or academy and strive to gain a competitive advantage through this leadership opportunity.

How were CTE Ambassadors nominated?

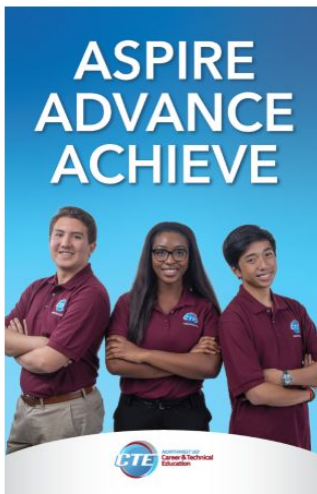
CTE teachers at each of the four high school campuses nominated up to three students in their program.

What do students "get" out of being a CTE Ambassador?

CTE Ambassadors develop professional skills such as networking, public speaking and leadership, accrue volunteer hours, and network and build friendships across NISD campuses.

What role do CTE Ambassadors play on your campus?

CTE Ambassadors can be beneficial to your campus in a variety of ways: by sharing their story with your teachers/students/parents, giving campus tours, hosting evening events such as CTE Showcase, serving on advisory teams, helping students develop their own competitive advantage.



Our CTE ambassador program has more than 90 students who champion CTE across the district. They not only tell their story but help others discover what opportunities are available.

Students Gain:

- Leadership Training
- Service Hour Attainment
- Mentorship
- Learning Experiences

Student Influencers of AllianceTexas

Hillwood partnership comprised of a prestigious cohort of NISD, Keller and EMS-ISD student ambassadors for AllianceTexas.

NISD had 9 Influencers in 21-22 and 14 for the 22-23 year.



Student opportunities this year:

- Learn from CEO / Executives:
 - Meta (Facebook)
 - AmazonAIR
 - GoogleWing
 - Hillwood
 - Former Mayor Betsy Price
- Tour Amazon
- Test GoogleWing Flight Delivery Drones
- Present at the Schwab Campus

And so much more!

2019~2024 InterLink High Demand Occupations

Identified by North Central Texas Employers

Data Source: EMSI, Texas Workforce Commission, Bureau of Labor Statistics, InterLink Regional Employer Labor Market Survey, InterLink Task Forces

Industry Cluster ~ Job Title	Regional Median Hourly Earnings	Regional Experienced Hourly Earnings	Typical Entry Level Education
Agriculture, Food and Natural Resources			
Veterinary Technologists and Technicians	\$15.99	\$23.20	Associate's degree
Architecture and Construction			
Electricians	\$20.41	\$31.98	High school diploma or equivalent
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	\$20.83	\$33.69	Postsecondary nondegree award
Maintenance and Repair Workers, General	\$18.21	\$28.08	High school diploma or equivalent
Operating Engineers and Other Construction Equipment Operators	\$18.60	\$25.87	High school diploma or equivalent
Plumbers, Pipefitters, and Steamfitters	\$21.72	\$32.12	High school diploma or equivalent
Welders, Cutters, Solderers, and Brazers	\$18.04	\$27.91	High school diploma or equivalent
Business, Marketing and Finance			
Accountants and Auditors	\$35.27	\$59.99	Bachelor's degree
Financial Analysts	\$39.94	\$66.53	Bachelor's degree
Insurance Claims and Policy Processing Clerks	\$18.84	\$29.75	High school diploma or equivalent
Education and Training			
Elementary School Teachers, Except Special Ed.	\$28.23	\$37.10	Bachelor's degree
Secondary School Teachers, Except Special and Career/Technical Education	\$29.01	\$38.49	Bachelor's degree
Health Science			
Clinical Laboratory Technologists and Technicians	\$25.35	\$39.47	Associate's degree
Licensed Practical and Licensed Vocational Nurses	\$22.54	\$30.70	Postsecondary nondegree award
Medical Assistants	\$15.77	\$20.32	Postsecondary nondegree award
Medical Records and Health Information Techs.	\$19.49	\$34.07	Postsecondary nondegree award
Nursing Assistants	\$12.30	\$17.77	Postsecondary nondegree award
Patient Care Technicians (PCT)	\$9.29	\$12.42	High school diploma or equivalent
Pharmacy Technicians	\$15.38	\$22.55	High school diploma or equivalent
Radiologic Technologists	\$28.95	\$39.31	Associate's degree
Registered Nurses	\$35.42	\$48.50	Bachelor's degree
Respiratory Therapists	\$29.73	\$38.28	Associate's degree
Hospitality and Tourism			
Chefs and Head Cooks	\$23.67	\$40.00	High school diploma or equivalent
Food Service Managers	\$21.34	\$43.82	High school diploma or equivalent
Information Technology			
Computer Network Architects	\$56.45	\$79.45	Bachelor's degree
Computer Systems Analysts	\$44.05	\$70.11	Bachelor's degree
Information Security Analysts	\$44.15	\$71.11	Bachelor's degree
Network and Computer Systems Administrators	\$43.37	\$64.56	Bachelor's degree
Software Developers, Applications	\$52.68	\$74.50	Bachelor's degree
Software Developers, Systems Software	\$51.86	\$75.21	Bachelor's degree
Law and Public Service			
Emergency Medical Technicians and Paramedics	\$19.39	\$28.72	Postsecondary nondegree award
Firefighters	\$27.46	\$41.32	Postsecondary nondegree award
Paralegals and Legal Assistants	\$28.32	\$42.96	Associate's degree
Police and Sheriff's Patrol Officers	\$33.43	\$45.16	High school diploma or equivalent

BY THE NUMBERS

A SKILLS GAP SAMPLER

WORKFORCE

67%

The percentage of employers who can't find qualified candidates

60%

The percentage of employers who have vacancies for twelve weeks or longer

COLLEGE

11%

The percentage of business leaders who say they are confident college grads will be prepared for the workplace

TECH/SCIENCE

14X

The rise of tech and the demand for big data, has created a skills shortage. For example, in 2012, there were just 1,061 job postings for data scientists. By 2016, that had grown 14-fold, to 14,653.

HEALTH CARE

1.04m

The number of skilled health care jobs currently unfilled

SOURCE: Burning Glass Technologies; Gallup; CareerBuilder; US Bureau of Labor Statistics.



NORTHWEST ISD
Career & Technical Education

Labor market data matters!

NISD continually seeks to understand labor trends and makes informed decisions along the way.

Skilled
Credentialed
READY



Your Education Just Got Real.

Partnership for Career & Technical Education



NORTHWEST ISD
Career & Technical
Education

We design
programming
to support
the needs of
our students
and
community.

Manufacturing			
Machinists	\$18.88	\$29.50	High school diploma or equivalent
STEM			
Civil Engineers	\$41.18	\$69.45	Bachelor's degree
Electrical Engineers	\$47.08	\$75.32	Bachelor's degree
Industrial Engineers	\$46.80	\$69.77	Bachelor's degree
Mechanical Engineers	\$43.55	\$75.31	Bachelor's degree
Video Game Designers	\$44.35	\$62.24	Bachelor's degree
Transportation, Distribution and Logistics			
Aircraft Mechanics and Service Technicians	\$29.54	\$47.32	Postsecondary nondegree award
Airline Pilots, Copilots, and Flight Engineers	\$75.51	\$175.49	Bachelor's degree
Automotive Body and Related Repairers	\$18.63	\$31.91	High school diploma or equivalent
Automotive Service Technicians and Mechanics	\$16.05	\$29.73	Postsecondary nondegree award
Diesel Engine Specialists	\$22.35	\$31.54	High school diploma or equivalent
Transportation, Storage, and Distribution Mgrs.	\$43.82	\$76.37	High school diploma or equivalent

InterLink Emerging and Evolving Occupations		
Projected to Offer Future Employment Opportunities		
Emerging Occupations are new occupations in the workforce with new titles and skills		
Evolving Occupations are traditional occupations whose knowledge, skills, and abilities have changed or evolved		
SOC Code/O*Net Code	Occupation Title	Industry
19-1021	Biochemists	Science
19-4021	Biological Technicians	Science
15-1199.08	Business Intelligence Analysts/Operations Research Analyst	Information Technology
15-1199.02 Emerging	Cloud Computing Architects	Information Technology
Evolving	Convergence Technology Spec. /Techs.	Information Technology
15-1111 - Emerging	Data Scientists including Advanced Analytics	Information Technology
17-3024	Drone Operators/ Remotely Piloted Vehicle Engineering Techs. (Unassisted Air Vehicles)	Transportation
17-3025.00	Environmental Engineering Technicians	Engineering
19-4092.00	Forensic Science Technicians (Computer & Digital)	Information Technology
17-3029.10	Fuel Cell Technicians	Energy
29-9092	Genetic Counselors	Health Science
19-1029.03	Geneticists	Health Science
13-2099.02	Market Research Analysts & Marketing Specialists	Business
17-2131.00	Materials/Smart Materials Analysts/Engineers	Science
17-2199.09	Nano Systems Engineers	Engineering
17-3029.12	Nanotechnology Engineering Technicians	Technology
17-3029.11	Nanotechnology Engineering Technologists	Technology
19-4099.01	Quality Control Analysts	Information Technology
19-4099.03	Remote Sensing Technicians	Information Technology
13-2099.02	Risk Management Specialists (Risk Analysts)	Business
17-3024.01	Robotics Technicians - Electro Mechanical Technician	Technology
47-2231	Solar Photovoltaic (Electric) Technicians Installers	Construction
Emerging	Virtual Reality Engineers/Specialists/Technicians	Technology
49-9081	Wind Turbine Service Technicians	Construction

CASE STUDY

THE SKILLS GAP IN MANUFACTURING

The lack of properly trained workers can stunt economic growth. Here's one sector that's struggling to fill its talent pipeline.

FACT

6 out of 10

open skilled production positions remain unfilled due to the skills gap...

...and, thus, it can take longer to find qualified employees.

FACT

3.5 Million

manufacturing jobs must be filled in the decade from 2015 to 2025...

...but 2 million of those positions will go unfilled due to the talent shortage.

TIME IT TAKES TO RECRUIT HIGHLY SKILLED WORKERS

Skilled production workers

70 Days

Engineers, researchers, scientists

94 Days

Other workers

48 Days

WHY DOES THIS MATTER?

Every manufacturing job creates 2.5 new positions in local goods and services... and for every \$1 invested in manufacturing, another \$1.40 worth of value is created in other parts of the economy.

SKILLS GAP BOOM

Unfilled jobs due to the skills gap:

600K vs. **2M**
in 2011 by 2025

THE GAP

The skills executives say current employees lack.

70%
of executives say current employees lack tech/ computer skills

69%
of executives say current employees lack problem solving skills

67%
of executives say current employees lack basic technical skills

60%
of executives say current employees lack math skills

THE IMPACT

82%
of execs say the skills gap will adversely affect their ability to keep up with demand

78%
believe they won't be able to implement new tech and increase productivity

69%
say the talent shortage will undercut customer service

62%
contend innovation and the development of new products will be harmed.

48%
say the skills deficit will slow international expansion

SOURCE: Deloitte/The Manufacturing Institute



T-2-M-4 Tools

When running a race, what do runners do when they cross the finish line? They stop running. T2M4 is an awareness program built upon the idea that high school graduation, college acceptance, and starting a job are changes in the direction of the race, but they are not the finish line. In other words, we want our graduates to keep running the race.

At NISD we want our students to think about their future in terms of T-2-M-4



- Technical Training and Certifications



- 2-Year Degree Programs



- Military Occupations



- 4-Year University Experience

All are great options and we are committed to making students ready for whichever they choose.

Because of this, NISD is expanding course offerings to include Career and Technical courses through 8 Academies and 19 pathways that allow student to earn specialized career certifications, and participate in internships that will make them highly competitive in the job market, and college-level classes through Advanced Placement, UT OnRamps, and Dual Credit, that offer the potential of earning college credit as well as high school credit.

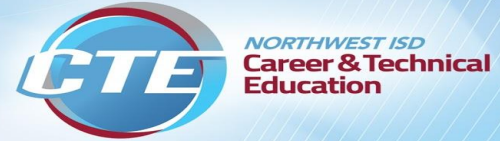
In doing this, we know that we will be preparing our students to live locally and compete globally.



We believe **all** students need to choose postsecondary training. Some of this training may occur while still in high school, however each student needs postsecondary options and to be prepared for whichever option they choose.

Based on programming, labor market research and community expectations we provide opportunities for the next step!

A few highlights...



- Nearly 80% of all high school students participate in CTE and 90% of middle school students. District-wide CTE students currently fill **over 10,000 seats**.
- **Middle School CTE** has grown to offer **8 different CTE courses** including Lifetime Nutrition, STEM Computer Science & Digital Art Animation
- All programming is **free and accessible** to all students and busing is provided for your academy of choice.
- Our **Agriculture Science programs** have over **1,200 students** who receive specialized training in leadership, welding/construction, veterinary medicine, and horticulture.
- Our Education Programs certified 90% of Seniors with **Educational Aide I** and will be offering **Dual-Credit Education** in 22-23

A few highlights...



- Our Education Program currently has **148 future educators interning** throughout NISD campuses as NISD works to “Grow Our Own” Teachers.
- Our **Creative Media Productions academy** is continually featured for the work our students produce and our graduates are constantly sought after.
- Our **business academy** has produced top **Junior Achievement** companies that have gone on to be nationally ranked with students starting their own companies.
- Our **Biomedical Science** academy has been featured as a demonstration site for **Project Lead the Way**, and our facilitator was named the **Biomed teacher of the year for PLTW**.

A few highlights...



- Our Culinary Academy was the first High School in Texas to receive the **American Culinary Federation (ACF)** the top accrediting body for culinary education in the country. Students are now Tier 1 certifying within this program as well as earning tuition-free dual-credit college credit hours.
- Our **Cosmetology academy** has a **100% pass rate** for all licensed cosmetologists and grew by 42% this year.
- Our **STEM academy** has **100%** of its students who complete the academy with at least **1 Industry-based credential**, however more than half complete 2 IBC's and give more than 70 presentations throughout their high school career.
- **Aviation Academy** is now fully certifying Drone Pilots along with Private Pilot & Aviation Maintenance.

What's Next for NISD CTE



- **Advanced Manufacturing Program** is currently in the 3rd year of implementation now at all 3 High Schools.
- Addition of **Construction Science Program** at NHS. This program will allow our students to focus on trades while also preparing them for post-secondary Construction Science degrees. Begins when renovations are completed.
- **Cosmetology Academy moving to NHS** (2023-2023) New facility to support high growth in numbers.
- Addition of **Education dual credit programs** in partnership with TCC at all three comprehensive high schools.
- Continue strong **Literacy & Classroom Engagement training** focuses for 22 - 23 school year to close gaps with sub pop CTE learners.