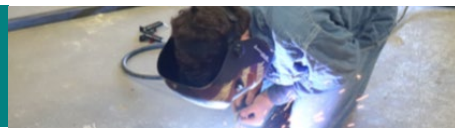


Agricultural Technology & Mechanical Systems



The Applied Agricultural Engineering program of study explores the occupations and educational opportunities associated with applying knowledge of engineering technology and biological science to agricultural problems concerned with power and machinery, electrification, structures, soil and water conservation, and processing agricultural products. This program of study may also include exploration into diagnosing, repairing, or overhauling farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Agriculture, Food, and Natural Resources #8050
- Principles of Agriculture, Food, and Natural Resources H M #8065

Level 2

- Agricultural Mechanics and Metal Technologies #8061
- Agricultural Mechanics and Metal Technologies D #

Level 3

- Agricultural Structures Design and Fabrications #8062
- Agricultural Structures Design and Fabrications D #

Level 4

- Agricultural Equipment Design and Fabrication/Lab #8042 AND/OR
- Practicum in Agriculture, Food, and Natural Resources-Ag Tech & Tech (2CR) #8070
- Practicum in Agriculture, Food, and Natural Resources-Ag Tech & Tech (2CR) M D #

Postsecondary Opportunities

Associates Degrees

- Heavy Equipment Maintenance Technology/ Technician
- Agricultural Mechanization, General
- Small Engine Mechanics and Repair Technology/ Technician
- Welding Technology/ Welder

Bachelor's Degrees

- Agricultural Engineering
- Agricultural Mechanization, General

Master's, Doctoral, and Professional Degrees

- Agricultural Engineering
- Agricultural Mechanization, General

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> • Tour a farm products or machinery plant • Participate in Texas FFA 	<ul style="list-style-type: none"> • Earn a welding certification • Intern at a farm products or machinery plant • Participate in an FFA supervised agricultural experience

NISD Industry-Based Certifications (A-F)

- AWS D1.1 Structural Steel
- AWS D9.1 Sheet Metal Welding

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Outdoor Power Equipment and Other Small Engine Mechanics	\$32,406	366	16%
Welders	\$41,350	6171	9%
Farm Equipment Mechanics and Service Technicians	\$39,915	304	17%
Mobile Heavy Equipment Mechanics	\$47,299	1627	16%
Agricultural Engineers	\$64,792	9	13%

Agriculture, Food, and Natural Resources Career Cluster

The Agriculture, Food, and Natural Resources (AFNR) Career Cluster focuses on the essential elements of life food, water, land, and air. This career cluster includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production. Successful completion of the Applied Agricultural Engineering program of study will fulfill requirements of a Business and Industry endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022

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Animal Science



The Animal Science program of study focuses on the science, research, and business of animals and other living organisms. It teaches CTE learners how to apply biology and life science to real-world life processes of animals and wildlife, either in laboratories or in the field, which could include a veterinary office, a farm or ranch, or any outdoor area harboring animal life. Students may also research and analyze the growth and destruction of species and research or diagnose diseases and injuries of animals.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Agriculture, Food, and Natural Resources #8050
- Principles of Agriculture, Food, and Natural Resources H M # 8065

Level 2

- Livestock Production #8051
- Livestock Production D M #8031

Level 3

- Veterinary Medical Applications #8048 AND/OR
- Advanced Animal Science #8053
- Advanced Animal Science D M #8078

Level 4

- Practicum in Agriculture, Food, and Natural Resources-Animal Science (2CR) #8064
- Practicum in Agriculture, Food, and Natural Resources-Animal Science D M (2CR) #

Postsecondary Opportunities

Associates Degrees

- Food Science and Technology
- Veterinary Studies
- Biotechnology Laboratory Technician

Bachelor's Degrees

- Animal Sciences
- Agriculture
- Zoology/ Animal Biology

Master's, Doctoral, and Professional Degrees

- Genetics
- Veterinary Medicine
- Biological and Biomedical Sciences

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> • Participate in Texas FFA 	<ul style="list-style-type: none"> • Compete in an Agri-Science Fair 4H • Volunteer at a local farm or with a veterinarian • Participate in an FFA supervised agricultural experience

NISD Industry-Based Certifications

- Certified Veterinary Assistant, Level 1
- Elanco Fundamentals of Animal Science Certification

NISD Performance Acknowledgment

- Texas Beef Quality Assurance



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Animal Breeders	\$39,139	28	9%
Animal Scientists	\$57,533	22	12%
Medical Scientists	\$63,898	435	27%
Veterinarians	\$93,496	294	24%
Zoologists and Wildlife Biologists	\$67,309	45	32%

Agriculture, Food, and Natural Resources Career Cluster

The Agriculture, Food, and Natural Resources (AFNR) Career Cluster focuses on the essential elements of life food, water, land, and air. This career cluster includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production. Successful completion of the Animal Science program of study will fulfill requirements of a Business and Industry endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022

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The Food Science and Technology program of study explores the occupations and educational opportunities associated with working with agricultural and food scientists in food, fiber, and animal research, production, and processing. This program of study may also include assisting with animal breeding, nutrition, and conducting tests and experiments to improve yield and quality of crops or to increase the resistance of plants and animals to disease or insects.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Agriculture, Food and Natural Resources M #8230
- Principles of Agriculture, Food, and Natural Resources #8050, H #8065

Level 2

- Food Technology and Safety M #8080
- Food Technology and Safety M D # 8083

Level 3

- Food Processing/Lab M (2CR) #8081

Level 4

- Practicum in Agriculture, Food, and Natural Resources-Food Science & Technology- Food Processing M (2CR) #8082
 - Practicum in Agriculture, Food, and Natural Resources-Food Science & Technology- Food Processing M D (2CR) #8082

Postsecondary Opportunities

Associates Degrees

- Food Science

Bachelor's Degrees

- Agricultural and Food Products Processing
- Food Science and Nutrition
- Food Science and Technology

Master's, Doctoral, and Professional Degrees

- Food Science and Technology

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> • Tour a food products processing facility • Participate in Texas FFA 	<ul style="list-style-type: none"> • Intern at a food products processing facility • Participate in an FFA supervised agricultural experience

Potential NISD Industry-Based Certifications

- Culinary Meat Selection & Cookery Certification
- Food Safety & Science Certification
- Pre-Professional Certification in Food Science Fundamentals



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Agricultural and Food Science Technicians	\$34,382	236	11%
Supervisors of Production and Operating	\$62,171	5,094	9%
Inspectors, Testers, Sorters, Samplers, and Weighers	\$37,689	6.653	%

Agriculture, Food, and Natural Resources Career Cluster

The Agriculture, Food, and Natural Resources (AFNR) Career Cluster focuses on the essential elements of life food, water, land, and air. This career cluster includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production. Successful completion of the Food Science and Technology program of study will fulfill requirements of a Business and Industry endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022

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Plant Science



The Plant Science program of study focuses on the science, research, and business of plants and other living organisms. It teaches students how to apply biology and life science to real-world life processes of plants and vegetation, either in laboratories or in the field.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Agriculture, Food, and Natural Resources #8050
- Principles of Agriculture, Food, and Natural Resources H M # 8065

Level 2

- Floral Design #8057 AND/OR
- Horticultural Science #8059
- Horticulture Science D M #8079

Level 3

- Advanced Floral Design #8069 AND/OR
- Advanced Plant and Soil Science #8060
- Advanced Plant and Soil Science D M #8067

Level 4

- Practicum in Agriculture, Food, and Natural Resources-Plant Science (2CR) #8068
- Practicum in Agriculture, Food, and Natural Resources-Plant Science (2CR) D M #

Postsecondary Opportunities

Associates Degrees

- Applied Horticulture/ Horticulture Operations, General
- Ornamental Horticulture
- Agricultural Business and Management, General
- Turf and Turfgrass Management

Bachelor's Degrees

- Applied Horticulture/ Horticulture Operations, General
- Agricultural Business and Management, General
- Turf and Turfgrass Management

Master's, Doctoral, and Professional Degrees

- Applied Horticulture/ Horticulture Operations, General
- Agronomy and Crop Science
- Farm/Farm and Ranch Management

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> • Participate in Texas FFA 	<ul style="list-style-type: none"> • Work at a florist or landscaper business • Participate in an FFA supervised agricultural experience

NISD Industry-Based Certifications

- BASF Plant Science Certification
- Commercial/Non-Commercial Pesticide Applicator
- Texas Certified Nursery Professional
- Texas State Florist's Association Level I Floral Certification
- Texas State Florist's Association Level II Floral Certification



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Soil and Plant Scientists	\$54,662	116	21%
Tree Trimmers and Pruners	\$32,240	589	14%
Pesticide Handlers, Sprayers, and Applicators	\$36,733	196	22%
Landscaping Supervisors	\$44,408	807	19%
Biological Technicians	\$42,931	452	17%

Agriculture, Food, and Natural Resources Career Cluster

The Agriculture, Food, and Natural Resources (AFNR) Career Cluster focuses on the essential elements of life - food, water, land, and air. This career cluster includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production. Successful completion of the Plant Science program of study will fulfill requirements of a Business and Industry endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022

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Early Learning



The Early Learning program of study focuses on early childhood education, which consists of instructing and supporting preschool and early elementary school students in activities that promote social, physical and intellectual growth as well as in basic elements of science, art, music, and literature. This program of study introduces CTE learners to tasks necessary for planning, directing, and coordinating activities for young children.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Human Services #8459 (Middle School)
- Principles of Education and Training M #8230

Level 2

- Child Development #8231

Level 3

- Child Guidance (2CR) #8232
- Child Guidance D (2CR) #8463

Level 4

- Practicum in Early Learning (2CR) #8261

Postsecondary Opportunities

Associates Degrees

- Early Childhood Education and Teaching
- Multicultural Early Childhood Development
- Kindergarten/Preschool Education and Training
- Psychology/Sociology

Bachelor's Degrees

- Early Childhood Education and Teaching
- Multicultural Early Childhood Development
- Early Childhood
- Psychology/Sociology

Master's, Doctoral, and Professional Degrees

- Early Childhood Education and Teaching
- Multicultural Early Childhood Development
- Educational, Instructional, and Curriculum Supervision
- Educational Leadership and Administration

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> • Participate in the Texas Association of Future Educators or Family, Career, and Community Leaders of America 	<ul style="list-style-type: none"> • Teach a community education class • Volunteer as a teaching assistant

NISD Industry-Based Certifications (A-F)

- Early Childhood Education and Care-Basic
- Educational Aide I



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Kindergarten Teachers, except Special Education	\$53,310	1,848	17%
Preschool Teachers	\$27,851	4,330	17%
Elementary School Teachers	\$54,140	13,121	16%
Education Administrators, Elementary and Secondary School	\$79,830	2407	16%

Education and Training Career Cluster

The Education and Training Career Cluster focuses on planning, managing, and providing education and training services and related learning support services. All parts of courses are designed to introduce learners to the various careers available within the Education and Training career cluster. Successful completion of the Early Learning program of study will fulfill requirements of the Public Service endorsement. Revised – August 2022

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Teaching and Training



The Teaching and Training program of study prepares CTE learners for careers related to teaching, instruction, and creation of instructional and enrichment materials. The program of study introduces CTE learners to a wide variety of student groups and their corresponding needs. It familiarizes them with the processes for developing curriculum, coordinating educational content, and coaching groups and individuals.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Human Services #8459 (Middle School)
- Principles of Education and Training M #8230

Level 2

- Child Development #8231

Level 3

- Instructional Practices (2CR) #8233
- Instructional Practices D (2CR) #8463

Level 4

- Practicum in Education and Training (2CR) #8260

Postsecondary Opportunities

Associates Degrees

- Teacher Education
- Education, General (or specific subject area)
- Special Education
- Health and Physical Education/Fitness

Bachelor's Degrees

- Bilingual and Multilingual Education
- Education, General (or specific subject area)
- Special Education
- Health and Physical Education/Fitness

Master's, Doctoral, and Professional Degrees

- Instruction and Learning
- Educational Leadership and Administration, General
- Special Education
- Social and Philosophical Foundations of Education

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities

- Participate in the Texas Association of Future Educators or Family, Career, and Community Leaders of America

Work-Based Learning Activities

- Teach a community education class
- Intern as a teaching assistant or tutor
- Serve as a camp counselor

NISD Industry-Based Certifications (A-F)

- Early Childhood Education and Care-Basic
- Educational Aide I



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Adult Basic and Secondary Education and Literacy Teachers and Instructors	\$48,069	862	17%
Middle School Teachers, Except Special and Career/Technical Education	\$54,510	6,407	15%
Career and Technical Education Teachers, Secondary School	\$56,360	719	9%
Special Education Teachers, Secondary School	\$56,720	980	18%

Education and Training Career Cluster

The Education and Training Career Cluster focuses on planning, managing, and providing education and training services and related learning support services. All parts of courses are designed to introduce learners to the various careers available within the Education and Training career cluster. Successful completion of the Teaching and Training program of study will fulfill requirements of the Public Service endorsement. Revised – August 2022

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Digital Communications-Audio Video Production



The Digital Communications program of study explores the occupations and educational opportunities associated with the production of audio and visual media formats for various purposes, such as TV broadcasts, advertising, video production, or motion pictures. This program of study may also include exploration into operating machines and equipment to record sound and images, such as microphones, sound speakers, video screens, projectors, video monitors, sound and mixing boards, and related electronic equipment.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Arts, A/V Technology, and Communications M #8175

Level 2

- Digital Communications of the 21st Century #8179, Dual Credit #8518

Level 3

- Audio/Video Production I #8173
OR
- Audio Video Production I/Lab (2CR) M #8191

Level 4

- Audio/Video Production II/Lab (2CR) #8168, Dual Credit #8163

Postsecondary Opportunities

Associates Degrees

- Recording Arts Technology/Technician
- Cinematography and Film/Video Production
- Radio and Television Broadcasting Technology/Technician
- Music Technology

Bachelor's Degrees

- Recording Arts Technology/Technician
- Cinematography and Film/Video Production
- Radio and Television
- Agricultural Communication/Journalism

Master's, Doctoral, and Professional Degrees

- Communications Technology/Technician
- Cinematography and Film/Video Production
- Radio and Television
- Agricultural Communication/Journalism

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> Shadow a production team Participate in SkillsUSA or TSA 	<ul style="list-style-type: none"> Intern at a local television station or video production company Work with a local company on a project

NISD Industry-Based Certifications (A-F)

- Adobe Certified Professional: After Effects
- Adobe Certified Professional: Illustrator
- Adobe Certified Professional: Photoshop
- Adobe Certified Professional: Premiere Pro



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Sound Engineering Technicians	\$39,562	79	27%
Camera Operators, Television, Video, and Motion Picture	\$50,024	129	9%
Audio and Video Equipment Technicians	\$40,581	757	29%
Film and Video Editors	\$47,382	118	23%

Arts, Audio/Video Technology, and Communications Career Cluster

The Arts, A/V Technology and Communications (AAVTC) Career Cluster focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. Careers in the AAVTC career cluster require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication. Successful completion of the Digital Communications program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022

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Graphic Design & Interactive Media - Animation



The Graphic Design and Multimedia Arts program of study explores the occupations and educational opportunities associated with designing or creating graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. This program of study may also include exploration into designing clothing and accessories, and creating special effects, animation, or other visual images using film, video, computers, or other electronic tools and media, for use in computer games, movies, music videos, and commercials.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Arts, A/V Technology, and Communication M #8175

Level 2

- Digital Media M #8522, Dual Credit #8521

Level 3

- Animation I M #8171
OR
- Animation I/Lab M (2CR) #8190

Level 4

- Animation II/Lab M (2CR) #8172
OR
- 3-D Modeling and Animation M #8178

Postsecondary Opportunities

Associates Degrees

- Animation, Interactive Technology, Video Graphics and Special Effects
- Graphic Design
- Game and Interactive Media Design

Bachelor's Degrees

- Animation, Interactive Technology, Video Graphics and Special Effects
- Graphic Design
- Game and Interactive Media Design

Master's, Doctoral, and Professional Degrees

- Animation, Interactive Technology, Video Graphics and Special Effects
- Graphic Design
- Intermedia/Multimedia

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none">Join a website development or coding clubParticipate in SkillsUSA or TSA	<ul style="list-style-type: none">Intern with a multimedia or animation studioObtain a certificate or certification in graphic design

NISD Industry-Based Certifications (A-F)

- Adobe Certified Professional: After Effects
- Adobe Certified Professional: Illustrator
- Adobe Certified Professional: Photoshop
- Adobe Certified Professional: Premiere Pro

NISD Performance Acknowledgement

- Adobe Certified Professional: Animate
- Toon Boom

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Graphic Designers	\$44,824	1,433	15%
Multimedia Artists and Animators	\$67,392	186	21%

Arts, Audio/Video Technology, and Communications Career Cluster

The Arts, A/V Technology and Communications (AAVTC) Career Cluster focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. Careers in the AAVTC career cluster require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication. Successful completion of the Graphic Design & Multimedia Arts program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022

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The Architectural Design program of study explores the occupations and educational opportunities associated with developing, engineering, and designing building structures and facilities. This program of study may also include exploration into collecting and interpreting geographic information, researching and preparing maps, and interior design.

NISD Magnet Secondary Courses for High School Credit

Level 1

- Principles of Construction #8096

Level 2

- Architectural Design I #8105

Level 3

- Architectural Design II (2CR) #8147

Level 4

- Practicum in Architectural Design (2CR) #8148

Postsecondary Opportunities

Associates Degrees

- Architecture
- Interior Design
- Civil Engineering, General
- Geographic Information Science and Cartography

Bachelor's Degrees

- Architecture
- Interior Design
- Civil Engineering, General
- Geographic Information Science and Cartography

Master's, Doctoral, and Professional Degrees

- Architecture
- Interior Architecture
- Civil Engineering, General
- Geographic Information Science and Cartography

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> Shadow an architect, interior designer or civil engineer Participate in SkillsUSA 	<ul style="list-style-type: none"> Intern at an architectural firm

NISD Industry-Based Certifications (A-F)

- Autodesk Associate (Certified User) AutoCAD
- Autodesk Associate (Certified User) Revit Architecture

NISD Performance Acknowledgement

- NCCER Core
- OSHA 10-Hour Construction Industry

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Architects	\$77,043	808	16%
Geographic Information Analysts and Surveyors	\$58,926	162	27%
Architectural/ Civil Drafters	\$50,170	1,068	9%
Construction Managers	\$87,402	2,401	14%

Architecture and Construction Career Cluster

The Architecture and Construction Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management. Successful completion of the Architectural Design program of study will fulfill requirements of the Business and Industry endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022

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Carpentry



The Carpentry program of study explores the occupations and educational opportunities related to constructing, installing, or repairing structures and fixtures made of wood, such as concrete forms (including frameworks, partitions, joists, studding, rafters, and stairways). This program of study may also include exploration into installing, dismantling, or moving machinery and heavy equipment according to layout plans, blueprints, or other drawings.

NISD Secondary Courses for High School Credit

Level 1

- Principles of Construction #8096

Level 2

- Principles of Architecture #8097, Dual Credit M #8612

Level 3

- Construction Technology I (2CR) #8107, Dual Credit #8141

Level 4

- Construction Technology II (2CR) #8129, Dual Credit #8142

Postsecondary Opportunities

Associates Degrees

- Carpentry/Carpenter
- Industrial Mechanics and Maintenance Technology

Bachelor's Degrees

- Construction Science

Master's, Doctoral, and Professional Degrees

- Construction Management

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none">Shadow a carpenter or millwrightParticipate in SkillsUSA	<ul style="list-style-type: none">Obtain an NCCER certification in Millwright Level 1 or Carpentry Level 1

NISD Industry-Based Certifications (A-F)

- NCCER Core
- NCCER Carpentry Level 1

NISD Performance Acknowledgement

- OSHA 10 Construction Industry



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Carpenters	\$35,922	5,031	26%
Cost Estimators	\$63,939	2,239	21%

Architecture and Construction Career Cluster

The Architecture and Construction Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management. Successful completion of the Carpentry program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022

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Civil Engineering



The Engineering program of study focuses on the design, development, and use of engines, machines, and structures. CTE learners will learn how to apply science, mathematical methods, and empirical evidence to the innovation, design, construction, operation, and maintenance of different manufacturing systems.

NISD Secondary Courses for High School Credit

Level 1

- Principles of Construction #8096

Level 2

- Civil Engineering I #8728

Level 3

- Civil Engineering II (2CR) #8731

Level 4

- Practicum in STEM-Civil Engineering (2CR) #8716

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> Participate in SkillsUSA competitions 	<ul style="list-style-type: none"> Intern at an engineering firm Shadow a machinist

Postsecondary Opportunities

Associates Degrees

- Electrical and Electronics Engineering
- Drafting and Design Technology/ Technician, General
- Engineering Technology

Bachelor's Degrees

- Electrical and Electronics Engineering
- CAD/CADD Drafting and/or Design Technology/ Technician
- Bioengineering and Biomedical Engineering
- Construction Engineering Technology/ Technician

Master's, Doctoral, and Professional Degrees

- Electrical and Electronics Engineering
- Mechanical Engineering
- Bioengineering and Biomedical Engineering

NISD Industry-Based Certifications (A-F)

- NCCER Core
- Autodesk Associate (Certified User) AutoCAD
- Autodesk Inventor
- Autodesk Certified Professional in Civil 3D for Infrastructure Design

NISD Performance Acknowledgment

- Land Survey Tech I

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Aerospace Engineers	\$110,843	481	9%
Industrial Engineers	\$97,074	1,263	10%
Mechanical Engineers	\$91,107	1,535	11%
Chemical Engineers	\$112,819	474	9%
Electrical Engineers	\$98,405	1,137	105

Science, Technology, Engineering, and Mathematics Career Cluster

The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services. Successful completion of the Engineering program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met. Revised – August 2022

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The Construction Management and Inspection program of study explores the occupations and educational opportunities associated with cost estimates for construction projects or services to aid management in bidding on or determining the price of products or services. This program of study may also include exploration into inspecting structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Construction #8096

Level 2

- Principles of Architecture #8097, Dual Credit #8612

Level 3

- Construction Management I #8108, Dual Credit #8140

Level 4

- Construction Management II #8130, Dual Credit #8133

Postsecondary Opportunities

Associates Degrees

- Construction Engineering Technology/Technician
- Business Administration and Management, General
- Mechanical Engineering
- Business/ Commerce, General

Bachelor's Degrees

- Construction Engineering Technology/Technician
- Business Administration and Management, General
- Mechanical Engineering
- Business/ Commerce, General

Master's, Doctoral, and Professional Degrees

- Materials Engineering
- Business Administration and Management, General
- Mechanical Engineering
- Manufacturing Engineering

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> Shadow a building inspector or cost estimator Participate in SkillsUSA 	<ul style="list-style-type: none"> Intern with a construction company Shadow a project manager or inspector

NISD Industry-Based Certifications (A-F)

- NCCER Core
- NCCER Carpentry Level 1

NISD Performance Acknowledgement

- OSHA 10-Hour Construction Industry



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Construction and Building Inspectors	\$53,914	983	17%
Cost Estimators	\$63,939	2,239	21%
Construction Managers	\$87,402	2,401	14%

Architecture and Construction Career Cluster

The Architecture and Construction Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management. Successful completion of the Construction Management and Inspection program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022

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The Electrical program of study explores the occupations and educational opportunities associated with installing, maintaining, and repairing electrical wiring, equipment, and fixtures. This program of study may also include exploration into installing and repairing telecommunications cable including fiber optics.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Construction #8096

Level 2

- Electrical Technology I #8115, Dual Credit #8145

Level 3

- Electrical Technology II (2CR) #8116, Dual Credit #8146

Level 4

- Practicum in Construction Technology-Electrical (2CR) #8166, Dual Credit #8186

Postsecondary Opportunities

Associates Degrees

- Electrician
- Communications Systems Installation and Repair Technology

Bachelor's Degrees

- Construction Science

Master's, Doctoral, and Professional Degrees

- Construction Management

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> Shadow an electrician or fiber optics line installer Participate in SkillsUSA 	<ul style="list-style-type: none"> Intern or shadow an electrician

NISD Industry-Based Certifications (A-F)

- NCCER Core
- Electrical Apprenticeship Certificate Level 1
- NCCER Electrical Level I

NISD Performance Acknowledgement

- OSHA 10-Hour Construction Industry

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Electrical Linemen	\$54,184	1,314	28%
Electricians	\$44,013	8,460	21%
Electrical and Electronics Installers	\$37,544	245	19%
Security and Fire Alarm Installers	\$43,638	1,112	22%
Telecommunication Line Installers and Repairers	\$49,150	1,228	10%

Architecture and Construction Career Cluster

The Architecture and Construction Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management. Successful completion of the Electrical program of study will fulfill requirements of the Business and Industry endorsement and STEM endorsement if the math and science requirements are met. Revised – August 2022

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Plumbing & Pipefitting



The Plumbing and Pipefitting program of study explores the occupations and educational opportunities related to assembling, installing, or repairing pipes, fittings, or fixtures of heating, water, or drainage systems. This program of study may also include exploration into maintaining pipe supports or related hydraulic or pneumatic equipment for steam, hot water, heating, cooling, lubricating, sprinkling, or industrial production or processing systems.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Construction #8096

Level 2

- Plumbing Technology I #8119, Dual Credit #8132

Level 3

- Pipefitting Technology II/Lab (2CR) #8120, Dual Credit #8144

Level 4

- Practicum in Construction Technology-Plumbing (2CR) # 8165, Dual Credit #8185

Postsecondary Opportunities

Associates Degrees

- Plumbing Technology/ Plumber
- Electrical and Power Transmission Installation/ Installer, General
- Pipefitting/ Pipefitter and Sprinkler Fitter
- High Performance and Custom Engine Technician/ Mechanic

Bachelor's Degrees

- Construction Science
- Operations Management and Supervision

Master's, Doctoral, and Professional Degrees

- Construction Management
- Operations Management and Supervision

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Mechanics, Installers, and Repairers	\$63,710	4,243	17%
Plumbers, Pipefitters and Steamfitters	\$44,928	5,765	23%
Helpers-Pipelayers, Plumbers, Pipefitters, and Steamfitters	\$30,098	1,567	18%
Pipe Installers	\$31,616	802	21%

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none">Job shadow a plumber, pipefitter, or steamfitterParticipate in SkillsUSA	<ul style="list-style-type: none">Obtain a Core Curriculum NCCER certification in Pipefitting Level I or Plumbing Level I

NISD Industry-Based Certifications (A-F)

- NCCER Core
- NCCER Plumbing, Level I
- Plumber's Helper Certificate Level 1

NISD Performance Acknowledgement

- OSHA 10-Hour Construction Industry
- Plumbing Apprenticeship



Architecture and Construction Career Cluster

The Architecture and Construction Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management. Successful completion of the Plumbing and Pipefitting program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022

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Diagnostic & Therapeutic Services-Clinical Lab



The Diagnostic and Therapeutic Services program of study introduces students to occupations and education opportunities related to diagnosing and treating chronic or acute illness, and performing complex medical laboratory tests for the diagnosis, treatment, and prevention of disease. This program of study may also include exploration into the opportunities associated with providing treatment to patients, to include rehabilitative programs, and testing in clinical laboratories, radiologic technologies and ultrasound technologies.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Health Science #8533

Level 2

- Health Science Theory #8536 AND
- Anatomy and Physiology M #8377, Dual Credit #8376

Level 3

- Medical Microbiology #8337
- Pathophysiology #8387

Level 4

- Practicum in Health Science- Clinical Lab (2CR) #8395

Postsecondary Opportunities

Associates Degrees

- Nuclear Medical Technology/Technologist
- Magnetic Resonance Imaging (MRI) Technology/Technician

Bachelor's Degrees

- Nuclear Medical Technology/Technologist
- Medical Radiologic Technology/Science Radiation Therapist

Master's, Doctoral, and Professional Degrees

- Radiologist
- Radiologic Technology/Science Radiographer

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Diagnostic Medical Sonographers	\$69,909	495	35%
Phlebotomist	\$30,597	1,442	36%
Nuclear Medicine Technologists	\$75,962	91	13%
Radiologic Technologists	\$55,494	1,196	21%
Magnetic Resonance Imaging Technologists	\$68,661	217	21%

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> Participate in Health Occupation Students of America 	<ul style="list-style-type: none"> Perform clinical rotations at a community wellness center, hospital, assisted living, nursing home

NISD Industry-Based Certifications (A-F)

- Phlebotomy Technician (CPT)

NISD Performance Acknowledgement

- Basic Life Support (BLS) Provider

Health Science Career Cluster

The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others. Successful completion of the Healthcare Diagnostics program of study will fulfill requirements of the Public Service or STEM endorsement if the math and science requirements are met. Revised – August 2022

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Diagnostic & Therapeutic Services- Dental



The Diagnostic and Therapeutic Services program of study introduces students to occupations and education opportunities related to diagnosing and treating chronic or acute illness, and performing complex medical laboratory tests for the diagnosis, treatment, and prevention of disease. This program of study may also include exploration into the opportunities associated with providing treatment to patients, to include rehabilitative programs, and testing in clinical laboratories, radiologic technologies and ultrasound technologies.

NISD Secondary Courses for High School Credit

Level 1

- Principles of Health Science #8533

Level 2

- Health Science Theory #8536 AND
- Anatomy and Physiology M #8377, Dual Credit #8376

Level 3

- Practicum in Health Science-Dental (2CR) #8374

Level 4

- Practicum in Health Science - Dental (2CR) #8365

Postsecondary Opportunities

Associates Degrees

- Dental Hygienist
- Medical/Clinical Assistant

Bachelor's Degrees

- Dental Hygienist

Master's, Doctoral, and Professional Degrees

- Dentist
- Physician Assistant
- Family and General Practitioners
- Pharmacist

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities

- Participate in SkillsUSA or Health Occupation Students of America

Work-Based Learning Activities

- Volunteer at a community wellness center, hospital, assisted living, or nursing home

NISD Industry-Based Certifications (A-F)

- Registered Dental Assistant X-Ray Certification

NISD Performance Acknowledgement

- Basic Life Support (BLS) Provider



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Medical Assistants	\$29,598	8,862	30%
Surgical Technologists	\$45,032	1,150	20%
Dental Hygienists	\$73,507	1,353	38%
Physicians and Surgeons	\$213,071	1,151	30%

Health Science Career Cluster

The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others. Successful completion of the Healthcare Therapeutic program of study will fulfill requirements of a Public Service endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022

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Diagnostic & Therapeutic Services - Medical Assistant



The Diagnostic and Therapeutic Services program of study introduces students to occupations and education opportunities related to diagnosing and treating chronic or acute illness, and performing complex medical laboratory tests for the diagnosis, treatment, and prevention of disease. This program of study may also include exploration into the opportunities associated with providing treatment to patients, to include rehabilitative programs, and testing in clinical laboratories, radiologic technologies and ultrasound technologies.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Health Science #8533

Level 2

- Health Science Theory #8536 AND
- Anatomy and Physiology M #8377, Dual Credit #8376

Level 3

- Practicum in Health Science - Clinical (2CR) #8391

Level 4

- Practicum in Health Science - Medical Assistant (2CR) #8390

Postsecondary Opportunities

Associates Degrees

- Dental Hygienist
- Medical/Clinical Assistant

Bachelor's Degrees

- Dental Hygienist

Master's, Doctoral, and Professional Degrees

- Dentist
- Physician Assistant
- Family and General Practitioners
- Pharmacist

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities

- Participate in SkillsUSA or Health Occupation Students of America

Work-Based Learning Activities

- Volunteer at a community wellness center, hospital, assisted living, or nursing home

NISD Industry-Based Certifications (A-F)

- Certified Clinical Medical Assistant (CCMA)

NISD Performance Acknowledgement

- Basic Life Support (BLS) Provider



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Medical Assistants	\$29,598	8,862	30%
Surgical Technologists	\$45,032	1,150	20%
Dental Hygienists	\$73,507	1,353	38%
Physicians and Surgeons	\$213,071	1,151	30%

Health Science Career Cluster

The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others. Successful completion of the Healthcare Therapeutic program of study will fulfill requirements of a Public Service endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022

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Diagnostic & Therapeutic Services-Medical Research



The Diagnostic and Therapeutic Services program of study introduces students to occupations and education opportunities related to diagnosing and treating chronic or acute illness, and performing complex medical laboratory tests for the diagnosis, treatment, and prevention of disease. This program of study may also include exploration into the opportunities associated with providing treatment to patients, to include rehabilitative programs, and testing in clinical laboratories, radiologic technologies and ultrasound technologies.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Health Science #8533

Level 2

- Health Science Theory #8536 AND
- Anatomy and Physiology M #8377, Dual Credit #8376

Level 3

- Medical Microbiology #8337
- Pathophysiology #8387

Level 4

- Practicum in Health Science- Medical Research (2CR) #8396

Postsecondary Opportunities

Associates Degrees

- Nuclear Medical Technology/Technologist
- Magnetic Resonance Imaging (MRI) Technology/Technician

Bachelor's Degrees

- Nuclear Medical Technology/Technologist
- Medical Radiologic Technology/Science Radiation Therapist

Master's, Doctoral, and Professional Degrees

- Radiologist
- Radiologic Technology/Science Radiographer

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> Participate in Health Occupation Students of America 	<ul style="list-style-type: none"> Perform clinical rotations at a community wellness center, hospital, assisted living, nursing home

NISD Performance Acknowledgement

- Basic Life Support (BLS) Provider

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Diagnostic Medical Sonographers	\$69,909	495	35%
Phlebotomist	\$30,597	1,442	36%
Nuclear Medicine Technologists	\$75,962	91	13%
Radiologic Technologists	\$55,494	1,196	21%
Magnetic Resonance Imaging Technologists	\$68,661	217	21%

Health Science Career Cluster

The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others. Successful completion of the Healthcare Diagnostics program of study will fulfill requirements of the Public Service or STEM endorsement if the math and science requirements are met. Revised – August 2022

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Diagnostic & Therapeutic Services-Pharmacy Technician



The Diagnostic and Therapeutic Services program of study introduces students to occupations and education opportunities related to diagnosing and treating chronic or acute illness, and performing complex medical laboratory tests for the diagnosis, treatment, and prevention of disease. This program of study may also include exploration into the opportunities associated with providing treatment to patients, to include rehabilitative programs, and testing in clinical laboratories, radiologic technologies and ultrasound technologies.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Health Science #8533

Level 2

- Health Science Theory #8536 AND
- Anatomy and Physiology M #8377, Dual Credit #8376

Level 3

- Practicum in Health Science - Pharmacy Technician (2CR) #8394

Level 4

- Practicum in Health Science - Pharmacy Technician (2CR) #8539

Postsecondary Opportunities

Associates Degrees

- Dental Hygienist
- Medical/Clinical Assistant

Bachelor's Degrees

- Dental Hygienist

Master's, Doctoral, and Professional Degrees

- Dentist
- Physician Assistant
- Family and General Practitioners
- Pharmacist

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities

- Participate in SkillsUSA or Health Occupation Students of America

Work-Based Learning Activities

- Volunteer at a community wellness center, hospital, assisted living, or nursing home

NISD Industry-Based Certifications (A-F)

- Pharmacy Technician (CPHT)

NISD Performance Acknowledgement

- Basic Life Support (BLS) Provider



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Medical Assistants	\$29,598	8,862	30%
Surgical Technologists	\$45,032	1,150	20%
Dental Hygienists	\$73,507	1,353	38%
Physicians and Surgeons	\$213,071	1,151	30%

Health Science Career Cluster

The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others. Successful completion of the Healthcare Therapeutic program of study will fulfill requirements of a Public Service endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022

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Diagnostic & Therapeutic Services-Sterile Processing



The Diagnostic and Therapeutic Services program of study introduces students to occupations and education opportunities related to diagnosing and treating chronic or acute illness, and performing complex medical laboratory tests for the diagnosis, treatment, and prevention of disease. This program of study may also include exploration into the opportunities associated with providing treatment to patients, to include rehabilitative programs, and testing in clinical laboratories, radiologic technologies and ultrasound technologies.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Health Science #8533

Level 2

- Health Science Theory #8536 AND
- Anatomy and Physiology M #8377, Dual Credit #8376

Level 3

- Practicum in Health Science - Clinical (2CR) #8391

Level 4

- Practicum in Health Science - Sterile Processing (2CR) #8392

Postsecondary Opportunities

Associates Degrees

- Dental Hygienist
- Medical/Clinical Assistant

Bachelor's Degrees

- Dental Hygienist

Master's, Doctoral, and Professional Degrees

- Dentist
- Physician Assistant
- Family and General Practitioners
- Pharmacist

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities

- Participate in SkillsUSA or Health Occupation Students of America

Work-Based Learning Activities

- Volunteer at a community wellness center, hospital, assisted living, or nursing home

NISD Performance Acknowledgement

- Basic Life Support (BLS) Provider
- Sterile Processing and Distribution (CSPD)



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Medical Assistants	\$29,598	8,862	30%
Surgical Technologists	\$45,032	1,150	20%
Dental Hygienists	\$73,507	1,353	38%
Physicians and Surgeons	\$213,071	1,151	30%

Health Science Career Cluster

The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others. Successful completion of the Healthcare Therapeutic program of study will fulfill requirements of a Public Service endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022

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The Biomedical Science program of study focuses on the study of biology and medicine in order to introduce CTE learners to the knowledge and skills necessary to be successful in the healthcare field, such as researching and diagnosing diseases, pre-existing conditions, or other determinants of health. Students may also practice patient care and communication.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Biosciences M #8717

Level 2

- Biotechnology I M #8719

Level 3

- Biotechnology II M #8720

Level 4

- Practicum in STEM - Bioscience M (2CR) #8724

Postsecondary Opportunities

Associates Degrees

- Histologic Technician
- Clinical Laboratory Science/Medical Technology/Technologist

Bachelor's Degrees

- Biomedical Engineers
- Clinical Laboratory Science/Medical Technology/Technologist

Master's, Doctoral, and Professional Degrees

- Genetic Counseling
- Medical Scientists
- Epidemiology

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> Join Health Occupations Students of America 	<ul style="list-style-type: none"> Intern at a lab Shadow a healthcare or medical professional

NISD Industry-Based Certifications

- Biotechnician Assistant Credentialing Exam (BACE)



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Medical and Laboratory Technicians	\$37,981	1,159	28%
Biological Technicians	\$42,931	452	17%
Forensic Science Technicians	\$48,152	171	35%
Chemical Technicians	\$49,733	672	10%
Medical and Clinical Laboratory Technologists	\$58,760	1,166	35%

Health Science Career Cluster

The Health Science Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services. Successful completion of the Biomedical program of study will fulfill requirements of the Public Service or STEM endorsement if the math and science requirements are met. Revised – August 2022

Engineering Foundations-SEA



The Engineering Foundations program of study focuses on the design, development, and use of engines, machines, and structures. CTE learners will learn how to apply science, mathematical methods, and empirical evidence to the innovation, design, construction, operation, and maintenance of different manufacturing systems.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Applied Engineering #8729 (Middle School)
- Programming & Design in Engineering and Biotech #7125 (Jones STEM)
- Principles of Applied Engineering #8703 (High School)

Level 2

- Manufacturing Engineering Technology I #8722

Level 3

- Engineering Design and Presentation I #8708

Level 4

- Practicum in STEM-Engineering Science #8716 (2CR)
- Engineering Design and Presentation II #8732 (2CR)

Postsecondary Opportunities

Associates Degrees

- Electrical and Electronics Engineering
- Drafting and Design Technology/ Technician, General
- Engineering Technology

Bachelor's Degrees

- Electrical and Electronics Engineering
- CAD/CADD Drafting and/or Design Technology/ Technician
- Bioengineering and Biomedical Engineering
- Construction Engineering Technology/ Technician

Master's, Doctoral, and Professional Degrees

- Electrical and Electronics Engineering
- Mechanical Engineering
- Bioengineering and Biomedical Engineering

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> • Participate in SkillsUSA competitions 	<ul style="list-style-type: none"> • Intern at an engineering firm • Shadow a machinist

NISD Industry-Based Certifications (A-F)

- AutoCAD Certified Associate
- Certified Solidworks Associate
- Fusion 360
- Engineering Technology Foundations
- Pre-Engineering/Engineering Technology - Job Ready

NISD Performance Acknowledgment

- SolidWorks Additive Manufacturing

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Aerospace Engineers	\$110,843	481	9%
Industrial Engineers	\$97,074	1,263	10%
Mechanical Engineers	\$91,107	1,535	11%
Chemical Engineers	\$112,819	474	9%
Electrical Engineers	\$98,405	1,137	10%

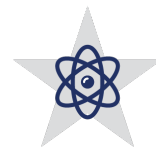
Engineering Career Cluster

The Engineering Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services. Successful completion of the Engineering program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met. Revised – August 2022

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Programming & Software Development -SEA



The Programming and Software Development program of study explores the occupations and education opportunities associated with researching, designing, developing, and testing operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computer applications. This program of study may also include exploration into creating, modifying, and testing the codes, forms, and script that allow computer applications to run.

NISD Secondary Magnet Courses for High School Credit

Level 1

- AP Computer Science Principles M #7104
- Onramps Computer Science #7320

Level 2

- Advanced Computer Science I M #7111

Level 3

- AP Computer Science A, MATH/LOTE M #7215 & #5971
- Computer Science II H M #7212

Level 4

- Computer Science III H M #7311

Postsecondary Opportunities

Associates Degrees

- Computer Programming/Programmer General
- Computer Software Engineer
- Computer Science
- Certified Software Analyst

Bachelor's Degrees

- Management Information Systems, General
- Computer Software Engineer
- Computer Science
- Information Science/ Studies

Master's, Doctoral, and Professional Degrees

- Computer Software Engineer
- Computer Science
- Information Science/ Studies

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> • Join TSA • Participate in coding club at school 	<ul style="list-style-type: none"> • Obtain an industry-based certification

NISD Industry-Based Certifications

- CompTIA IT Fundamentals
- IT Specialist-Java
- IT Specialist-Javascript

NISD Performance Acknowledgment

- IT Specialist- Python

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Software Developer, Systems Software	\$103,334	2,985	25%
Software Developers, Application	\$104,499	6,311	30%
Computer Programmers	\$79,893	1,454	9%

Information Technology Support & Services Career Cluster

The Information Technology Support & Services Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services. Successful completion of the Programming and Software Development program of study will fulfill requirements of the Business and Industry endorsement and STEM endorsement if the math and science requirements are met. Revised – August 2022

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Robotics and Automation Technology- SEA



The Robotics and Automation Technology program of study focuses on the assembly, operation, maintenance, and repair of electromechanical equipment or devices. CTE learners may work in a variety of mechanical fields, gaining knowledge and experience in robotics, refinery and pipeline systems, deep ocean exploration, or hazardous waste removal. CTE concentrators may work in a variety of fields of engineering.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Applied Engineering #8729 (Middle School)
- Programming & Design in Engineering and Biotech #7125 (Jones STEM)
- Principles of Applied Engineering #8703 (High School)

Level 2

- Manufacturing Engineering Technology I #8722

Level 3

- Robotics I #8733

Level 4

- Robotics II #8734
- Manufacturing Engineering Technology II #8735

Postsecondary Opportunities

Associates Degrees

- Electromechanical Engineering/Technology
- Certified Quality Technician
- Industrial Mechanics and Maintenance Technology

Bachelor's Degrees

- Electrical Engineering
- Industrial Engineering
- Mechanical Engineering

Master's, Doctoral, and Professional Degrees

- Electrical Engineering
- Industrial Engineering
- Mechanical Engineering

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> • Participate in SkillsUSA and local STEM events 	<ul style="list-style-type: none"> • Work at a local business or industry apprenticeship • Join the American Welding Society

NISD Industry-Based Certifications (A-F)

- AutoCAD Certified Associate
- Certified Solidworks Associate

NISD Performance Acknowledgment

- SolidWorks Additive Manufacturing
- AutoCAD Certified Associate

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Electro-Mechanical Assemblers	\$30,160	951	9%
Electro-Mechanical Technicians	\$56,555	127	9%
Industrial Machinery Mechanics	\$49,816	3,788	27%

Manufacturing Career Cluster

The Manufacturing Career Cluster focuses on planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and manufacturing/process engineering. Successful completion of the Advanced Manufacturing and Machinery Mechanics program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met. Revised – August 2022

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Diagnostic & Therapeutic Services LMS- Emergency Medical Technician Basic



The Emergency Services program of study focuses on training CTE learners to respond to emergency situations, such as medical emergencies and fire-based emergencies. Students will learn how to prevent emergencies, respond appropriately and in accordance with rules and regulations during crises, and investigate and delineate the source of the emergency.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Health Sciences M #8533

Level 2

- Medical Terminology #8358
- Medical Terminology D #8399

Level 3

- Health Science Theory -EMT AND
- Anatomy and Physiology #8377, Honors #8379, Dual Credit #8376

Level 4

- Emergency Medical Technician - Basic (2CR) #8563

Postsecondary Opportunities

Associates Degrees

- Emergency Medical Technology/Technician (EMT Paramedic)
- Fire Prevention and Safety Technology/Technician
- Fire Science/Firefighting

Bachelor's Degrees

- Emergency Medical Technology/Technician (EMT Paramedic)
- Natural Resources Law Enforcement and Protective Services

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> Attend local emergency awareness events Join the Texas Public Service Association 	<ul style="list-style-type: none"> Volunteer at a hospital or a fire station

NISD Industry-Based Certifications (A-F)

- Emergency Medical Responder (EMR)
- Emergency Medical Technician -Basic (EMT - B)

NISD Performance Acknowledgement Certifications

- Basic Life Support (BLS) Provider



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Firefighters	\$50,149	2,309	13%
Fire Inspectors and Investigators	\$54,787	161	14%
Emergency Medical Technicians	\$34,091	1,880	31%

Law and Public Service Career Cluster

The Law and Public Service Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and fire and emergency services. Successful completion of the Emergency Services program of study will fulfill requirements of the Public Service endorsement. Revised – August 2022

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Diagnostic & Therapeutic Services



The Diagnostic and Therapeutic Services program of study introduces students to occupations and education opportunities related to diagnosing and treating chronic or acute illness, and performing complex medical laboratory tests for the diagnosis, treatment, and prevention of disease. This program of study may also include exploration into the opportunities associated with providing treatment to patients, to include rehabilitative programs, and testing in clinical laboratories, radiologic technologies and ultrasound technologies.

NISD Secondary Courses for High School Credit

Level 1

- Principles of Health Science #8533

Level 2

- Medical Terminology #8358, Dual Credit #8399

Level 3

- Health Science Theory-Medical Assisting #8330 OR
- Health Science Theory-Pharmacy Technician #8332
AND
- Anatomy and Physiology #8377, Honors #8379, Dual Credit #8376

Level 4

- Practicum in Health Science - Medical Assisting (2CR) #8331
- Practicum in Health Science - Pharmacy Technician (2CR) #8333

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> Participate in SkillsUSA or Health Occupation Students of America 	<ul style="list-style-type: none"> Volunteer at a community wellness center, hospital, assisted living, or nursing home

Postsecondary Opportunities

Associates Degrees

- Dental Hygienist
- Medical/Clinical Assistant
- Nuclear Medical Technology/Technologist

Bachelor's Degrees

- Dental Hygienist
- Medical Radiologic Technology/Science Radiation Therapist

Master's, Doctoral, and Professional Degrees

- Dentist
- Physician Assistant
- Family and General Practitioners
- Pharmacist
- Radiologist

NISD Industry-Based Certifications (A-F)

- Certified Clinical Medical Assistant (CCMA)
- Pharmacy Technician (CPht)

NISD Performance Acknowledgement

- Basic Life Support (BLS) Provider



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Medical Assistants	\$29,598	8,862	30%
Surgical Technologists	\$45,032	1,150	20%
Dental Hygienists	\$73,507	1,353	38%
Physicians and Surgeons	\$213,071	1,151	30%

Health Science Career Cluster

The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others. Successful completion of the Healthcare Therapeutic program of study will fulfill requirements of a Public Service endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022

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Exercise Science, Wellness & Restoration-LMS



The Exercise Science, Wellness, and Restoration program of study introduces CTE learners to the fields that assist patients with maintaining physical, mental, and emotional health. Students will research diet and exercise needed to maintain a healthy, balanced lifestyle and learn about and practice techniques to help patients recover from injury, illness, or disease.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Health Science M #8533

Level 2

- Physical Therapy I M #8349

Level 3

- Health Science Theory - Physical Therapy M #8366 AND
- Anatomy & Physiology M #8377, Honors #8379, Dual 8376

Level 4

- Practicum in Health Science-Physical Therapy (2 CR) #8364

Postsecondary Opportunities

Associates Degrees

- Occupational Therapy Assistant
- Physical Therapy Aide
- Physical Therapy Assistant

Bachelor's Degrees

- Kinesiology and Exercise Science
- Therapeutic Recreation/Recreational Therapy
- Athletic Training/Trainer

Master's, Doctoral, and Professional Degrees

- Exercise Physiology
- Therapeutic Recreation/Recreation Therapy
- Athletic Training/Trainer
- Occupational Therapists
- Physical Therapists

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> Participate in Health Occupation Students of America 	<ul style="list-style-type: none"> Volunteer at a hospital or rehabilitation center Shadow a therapist Participate in clinical rotations

NISD Performance Acknowledgement

- Physical Therapy Aide
- Basic Life Support (BLS) Provider



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Speech Language Pathologists	\$73,070	1,068	25%
Respiratory Therapists	\$57,429	830	20%
Occupational Therapists	\$92,227	834	34%
Physical Therapy Assistants	\$70,200	1,268	44%

Health Science Career Cluster

The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others. Successful completion of the Medical Therapy program of study will fulfill requirements of a Public Service or STEM endorsement if the math and science requirements are met. Revised – August 2022

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Government & Public Administration



The Government and Public Administration program of study explores the occupations and educational opportunities associated with examining, evaluating, and investigating conformity with laws and regulations. This program of study will also explore the opportunities related to developing comprehensive plans and programs for use of land and physical facilities of jurisdictions, such as towns, cities, counties, and metropolitan areas.

Secondary Magnet Courses for High School Credit

Level 1

- Principles of Law, Public Safety, Corrections, and Security #8570, #8571 Dual Credit

Level 2

- Political Science I #8581

Level 3

- Planning and Governance #8583
- Dimensions of Diplomacy 8588

Level 4

- Practicum in Local, State, and Federal Government #8578(2CR)

Postsecondary Opportunities

Associates Degrees

- Accounting and Business/Management
- Financial Mathematics
- Finance, General
- Real Estate

Bachelor's Degrees

- Accounting and Finance
- Financial Mathematics
- Finance, General
- Real Estate

Master's, Doctoral, and Professional Degrees

- Accounting
- Taxation
- Finance, General

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities

- Attend local council and board meetings
- Join the Texas Public Service Association

Work-Based Learning Activities

- Intern with a legislator or city official
- Develop and present a solution for an identified problem



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Tax Examiners and Collectors, Revenue Agents	\$47,445	307	9%
Financial Examiners	\$76,731	412	27%
Appraisers and Assessors of Real Estate	\$54,496	529	21%
Financial Analysts	\$79,414	2,798	24%
Financial Specialists	\$67,995	997	17%

Law and Public Service Career Cluster

The Law and Public Service Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and fire and emergency services. Successful completion of the Government and Public Administration program of study will fulfill requirements of the Public Service endorsement.. Revised – August 2022

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Law Enforcement



The Law Enforcement program of study teaches CTE learners about the development of, adherence to, and protection of various branches of law. Students will learn how to appropriately and legally respond to breaches in the law according to statutory rules and regulations as well as investigate how and why the breaches occurred.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Law, Public Safety, Corrections, and Security #8570, #8571 Dual Credit

Level 2

- Law Enforcement I #8573

Level 3

- Law Enforcement II #8574
- Forensic Science #8553
- Criminal Investigations #8576

Level 4

- Practicum in Law, Public Safety, Corrections & Security-Law Enforcement #8598 (2CR)

Postsecondary Opportunities

Associates Degrees

- Criminal Justice/Safety Studies/Law Enforcement Administration
- Criminal Justice/Police Science
- Criminalistics and Criminal Science

Bachelor's Degrees

- Criminal Justice/Safety Studies/Law Enforcement Administration
- Criminal Justice/Police Science
- Juvenile Corrections

Master's, Doctoral, and Professional Degrees

- Criminal Justice/Safety Studies/Law Enforcement Administration
- Natural Resources
- Law Enforcement and Protective Services

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> Join the Texas Public Service Association or local criminal justice clubs 	<ul style="list-style-type: none"> Attend court hearings and other legal procedures

NISD Industry-Based Certifications (A-F)

- Non-Commissioned Security Officer Level II

NISD Performance Acknowledgement Certifications

- Mental Health Technician



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Police and Sheriff's Patrol Officers	\$60,112	5,241	13%
Probation Officers and Correctional Treatment Officers	\$44,054	793	9%
Correctional Officers and Jailers	\$40,186	4,683	9%
Immigration and Customs Inspectors	\$78,104	1,236	9%
First-Line Supervisors of Police and Detectives	\$91,312	253	25%

Law and Public Service Career Cluster

The Law and Public Service Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and fire and emergency services. Successful completion of the Law and Public Service program of study will fulfill requirements of the Public Service endorsement. Revised – August 2022

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The Legal Studies program of study introduces CTE learners to the occupations and educational opportunities related to representing clients in criminal and civil litigation and other legal proceedings, as well as assisting lawyers and preparing legal documents. This program of study explores possible specializations in a single area of law.

Secondary Magnet Courses for High School Credit

Level 1

- Principles of Law, Public Safety, Corrections, and Security #8570, #8571 Dual Credit

Level 2

- Court Systems and Practices #8572, #8558 Dual Credit

Level 3

- Legal and Research Writing #8575
- Forensic Science #8553

Level 4

- Practicum in Law, Public Safety, Corrections, and Security-Legal Studies #8599 (2CR)

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> Attend court hearings and other legal procedures Join the Texas Public Service Association 	<ul style="list-style-type: none"> Intern with a local attorney Script and conduct a mock trial

Postsecondary Opportunities

Associates Degrees

- Legal Assistant/Paralegal

Bachelor's Degrees

- Legal Assistant/Paralegal

Master's, Doctoral, and Professional Degrees

- Law
- Intellectual Property Law
- Advanced Legal Research/Studies General
- International Law and Legal Studies



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Lawyers	\$126,131	2,801	19%
Paralegal and Legal Assistants	\$50,544	2,837	19%

Law and Public Service Career Cluster

The Law and Public Service Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and fire and emergency services. Successful completion of the Legal Studies program of study will fulfill requirements of the Public Service endorsement. Revised – August 2022

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Nursing Science



The Nursing Science program of study introduces students to the knowledge and skills related to patient care. CTE learners may learn about or practice caring for patients, routine procedures such as monitoring vital signs, development and implementation of care plans, maintenance of medical records, and disease or pain management. Students may focus on the healthcare system and research system designs and make recommended modifications.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Health Science M #8533

Level 2

- Principles of Nursing M #8564

Level 3

- Science of Nursing M #8565 AND
- Anatomy & Physiology M #8377, Honors #8379, Dual 8376

Level 4

- Practicum in Health Science Nursing - CNA M (2CR) #8566

Postsecondary Opportunities

Associates Degrees

- Registered Nursing/Registered Nurse

Bachelor's Degrees

- Informatics Nurse Specialists

Master's, Doctoral, and Professional Degrees

- Nurse Practitioner
- Nursing Administration
- Nurse Anesthetist

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> Participate in Health Occupation Students of America 	<ul style="list-style-type: none"> Volunteer at a community wellness center, hospital, assisted living center, or nursing home

NISD Industry-Based Certifications (A-F)

- Certified Nurse Aide/Assistant(CNA)

NISD Performance Acknowledgment

- Basic Life Support (BLS) Healthcare Provider



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Licensed Vocational Nurses	\$45,178	7,186	21%
Registered Nurses	\$68,682	17,493	26%
Nurse Practitioners	\$107,827	977	50%
Nurse Anesthetists	\$154,856	357	23%

Health Science Career Cluster

The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others. Successful completion of the Nursing Science program of study will fulfill requirements of a Public Service endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022

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The Cybersecurity program of study includes the occupations and educational opportunities related to planning, implementing, upgrading, or monitoring security measure for the protection of computer networks and information. This program of study may also include exploration into responding to computer security breaches and virus and administering network security measures.

NISD Secondary Magnet Courses for High School Credit

Level 1

- AP Computer Science Principles #7104
- Principles of Business, Marketing & Finance #8203 (Elective only)

Level 2

- Cyber Internetworking I #8544
- Cyber Internetworking I D #8595 (2023-2024 SY)

Level 3

- Cyber Internetworking II #8548
- Cyber Internetworking II D #8596 (2024-2025 SY)

Level 4

- Practicum in Information Technology- Cybersecurity VEI (2CR) #8549
- Practicum in Information Technology- Cybersecurity (2CR) #8725
- Practicum in Information Technology- Cybersecurity D (2CR) #8597 (2025-2026 SY)

Postsecondary Opportunities

Associates Degrees

- System Networking, and LAN/WAN Management
- Information Technology
- Computer and Information Sciences, General
- Computer Science

Bachelor's Degrees

- Computer Systems Networking and Telecommunications
- Computer Systems Networking and Telecommunications
- Computer and Information Sciences, General
- Computer Science

Master's, Doctoral, and Professional Degrees

- Computer Systems Analysis/Analyst
- Information Technology
- Computer Information Sciences, General
- Computer Science

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> • Join TSA • Job shadow a computer system analyst or information security analyst 	<ul style="list-style-type: none"> • Obtain a cybersecurity IBC

NISD Industry-Based Certifications

- CompTIA A+ Certification
- CompTIA Network+
- CompTIA Security+
- CompTIA IT Fundamentals+

NISD Performance Acknowledgment

- CompTIA PenTest+
- Microsoft Office Specialist-Word
- Microsoft Office Specialist PowerPoint

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Information Security Analysts	\$91,915	814	29%
Network and Computer System Administrators	\$82,597	2,814	19%
Computer System Analysts	\$87,568	5,937	29%

Information Technology Support & Services Career Cluster

The Information Technology Support & Services Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services. Successful completion of the Agribusiness program of study will fulfill requirements of the Business and Industry or STEM Endorsement if this math and science requirements are met. Revised – October 2022

Entrepreneurship



The Entrepreneurship program of study teaches CTE learners how to plan, direct, and coordinate the management and operations of public or private sector organizations. Through this program of study, students will learn the skills necessary to formulate policies, manage daily operations, analyze management structures, and plan for the use of materials and human resources.

NISD Secondary Magnet Courses for High School Credit

Level 1

- Principles of Business, Marketing, and Finance #8203 AND
- Principles of Information Technology #8502 (Elective only)

Level 2

- Entrepreneurship I M #8653
- Entrepreneurship I D M #8643

Level 3

- Entrepreneurship II M #8673
- Entrepreneurship II D M

Level 4

- Practicum in Entrepreneurship- VEI (2CR) #8658
- Practicum in Entrepreneurship D M (2CR)

Postsecondary Opportunities

Associates Degrees

- Business Administration and Management
- Business/Commerce
- Public Administration
- Business Management

Bachelor's Degrees

- Business Administration and Management
- Business/Commerce
- Public Administration
- Management Science

Master's, Doctoral, and Professional Degrees

- Business Administration and Management
- Business/Commerce
- Public Administration
- Management Science

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
General and Operations Managers	\$107,640	18,679	20%
Management Analysts	\$87,651	4,706	32%
Managers, All Others	\$113,110	1,794	26%

Business, Marketing, and Finance Career Cluster

The Business, Marketing, and Finance Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. Successful completion of the Entrepreneurship program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022

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Work-Based Learning and Expanded-Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> • Participate in Business Professionals of America, Future Leaders of America, or DECA 	<ul style="list-style-type: none"> • Intern with a local management consulting firm

NISD Industry-Based Certifications

- Entrepreneurship and Small Business
- CompTIA IT Fundamentals+

NISD Performance Acknowledgment

- Microsoft Office Specialist PowerPoint
- Microsoft Office Specialist Word



Programming and Software Development



The Programming and Software Development program of study explores the occupations and education opportunities associated with researching, designing, developing, and testing operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computer applications. This program of study may also include exploration into creating, modifying, and testing the codes, forms, and script that allow computer applications to run.

NISD Secondary Magnet Courses for High School Credit

Level 1

- AP Computer Science Principles #7104
- Principles of Business, Marketing & Finance #8203 (Elective only)

Level 2

- Advanced Computer Science I #7110

Level 3

- AP Computer Science A 1, MATH/LOTE #7215 & #5971, Dual Credit #7216 & #5969
- Computer Science II H #7212

Level 4

- Practicum in Information Technology-VEI (2CR) #8510
- Practicum in Information Technology- Computer Science/Programming (2CR) #8726, Dual Credit #8597

Postsecondary Opportunities

Associates Degrees

- Computer Programming/Programmer General
- Computer Software Engineer
- Computer Science
- Certified Software Analyst

Bachelor's Degrees

- Management Information Systems, General
- Computer Software Engineer
- Computer Science
- Information Science/ Studies

Master's, Doctoral, and Professional Degrees

- Computer Software Engineer
- Computer Science
- Information Science/ Studies

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> • Join TSA • Participate in coding club at school 	<ul style="list-style-type: none"> • Obtain an industry-based certification

NISD Industry-Based Certifications

- CompTIA IT Fundamentals+
- Certified Entry Level Python Programmer (PCEP)
- IT Specialist- Java
- IT Specialist- Javascript

NISD Performance Acknowledgment

- IT Specialist- Python
- Microsoft Office Specialist PowerPoint
- Microsoft Office Specialist Word

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Software Developer, Systems Software	\$103,334	2,985	25%
Software Developers, Application	\$104,499	6,311	30%
Computer Programmers	\$79,893	1,454	9%

Information Technology Support & Services Career Cluster

The Information Technology Support & Services Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services. Successful completion of the Programming and Software Development program of study will fulfill requirements of the Business and Industry endorsement and STEM endorsement if the math and science requirements are met. Revised – August 2022

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