

Statewide Program of Study: Agricultural Technology and Mechanical Systems



The Agricultural Technology and Mechanical Systems program of study focuses on occupational and educational opportunities associated with applying engineering technology and biological science to agricultural problems related to power and machinery, electrification, structures, soil and water use, and processing agricultural products. This program of study includes diagnosing, repairing, or overhauling farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems.

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 occupations ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist.



Secondary Courses for High School Credit

- | | |
|---------|--|
| Level 1 | <ul style="list-style-type: none"> 8050 Principles of Agriculture, Food, and Natural Resources M OR 8065 Principles of Agriculture, Food, and Natural Resources H M |
| Level 2 | <ul style="list-style-type: none"> 8061 Agricultural Mechanics and Metal Technologies M 8091 Agricultural Mechanics and Metal Technologies D M |
| Level 3 | <ul style="list-style-type: none"> 8062 Agricultural Structures Design and Fabrication M |
| Level 4 | <ul style="list-style-type: none"> 8042 Agricultural Equipment Design and Fabrication M OR 8070 Practicum in Agriculture, Food, and Natural Resources-Ag Tech & Mec. M (2CR) |

Recommended Aligned Advanced Academic Courses

Dual Credit

Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Participate in a farm mechanic apprenticeship at an equipment production company
- Intern at an equipment manufacturing facility working with agricultural engineers

Expanded Learning Opportunities

- Participate in an FFA career, leadership, and speaking contest like an agriscience fair
- Participate in an agriculture robotics event

NISD Aligned Industry-Based Certifications

TEA A-F Recognized IBC

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



Example Postsecondary Opportunities

Apprenticeships

- Farm Equipment Mechanic I

Associate Degrees

- Diesel Mechanics Technology
- Industrial Mechanics and Maintenance Technology



Bachelor's Degrees

- Agricultural Engineering
- Agricultural Systems Management

Master's, Doctoral, and Professional Degrees

- Agricultural Engineering
- Industrial Technology

Additional Stackable IBCs/License

- Diesel Equipment Technology-Off Highway Specialization CER1
- Accredited Farm Manager



Example Aligned Occupations

Farm Equipment Mechanics and Service Technicians

Median Wage: \$46,582
Annual Openings: 326
10-Year Growth: 23%

Mobile Heavy Equipment Mechanics

Median Wage: \$57,943
Annual Openings: 2,637
10-Year Growth: 31%

Farmers, Ranchers, and Other Agricultural Managers

Median Wage: \$65,490
Annual Openings: 28,020
10-Year Growth: 4%



Statewide Program of Study: Animal Science



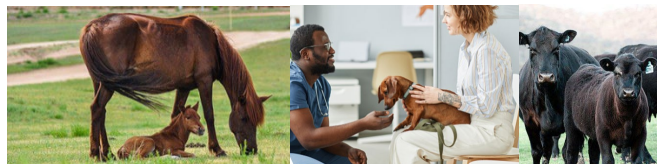
The Animal Science program of study focuses on occupational and educational opportunities associated with the science, research, and business of animals and other living organisms. This program of study includes applying biology and life science to real-world life processes of animals and wildlife, either in laboratories or in the field, which could include a veterinary office, a farm or ranch, or any outdoor area harboring animal life. Students will research and analyze the growth and destruction of species and research or diagnose diseases and injuries of animals.

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 occupations ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist.

Secondary Courses for High School Credit

- | | |
|---------|--|
| Level 1 | <ul style="list-style-type: none"> 8050-Principles of Agriculture, Food, and Natural Resources M OR 8065-Principles of Agriculture, Food, and Natural Resources H M |
| Level 2 | <ul style="list-style-type: none"> 8051-Livestock and Poultry Production M 8051ADV-Livestock and Poultry Production M (2028 Graduates Only) 8031 Livestock and Poultry Production D M |
| Level 3 | <ul style="list-style-type: none"> 8053 Advanced Animal Science M 8078 Advanced Animal Science D M |
| Level 4 | <ul style="list-style-type: none"> 8048 Veterinary Science 8064 Practicum in Agriculture, Food, and Natural Resources-Animal Science M (2CR) |



Example Postsecondary Opportunities

Apprenticeships

- Reproduction Technician

Associate Degrees

- Biological and Physical Sciences
- Entomology

Bachelor's Degrees

- Animal Science
- Zoology/Animal Biology

Master's, Doctoral, and Professional Degrees

- Marine Sciences
- Biotechnology

Additional Stackable IBCs/License

- Veterinarian
- Certified Veterinary Technician



Example Aligned Occupations



Veterinary Assistants and Laboratory Animal Caretakers

Median Wage: \$29,906
Annual Openings: 1,348
10-Year Growth: 24%

Veterinary Technologists and Technicians

Median Wage: \$33,679
Annual Openings: 1,217
10-Year Growth: 24%

Veterinarian

Median Wage: \$103,160
Annual Openings: 347
10-Year Growth: 26%

Animal Science

Recommended Aligned Advanced Academic Courses

AP	AP Biology
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability. .

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Shadow an animal scientist in a biology lab to learn about applying science to understand animals and wildlife Intern in a veterinary clinic, caring for animals and wildlife being treated in the clinic
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in an FFA career, leadership, and speaking contest like an agriscience fair Attend an agricultural industry seminar

NISD Aligned Industry-Based Certifications

TEA A-F Recognized IBC

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

NISD Performance Acknowledgement

- Texas Beef Quality Assurance

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Successful completion of the Animal Science program of study will fulfill requirements of a Business and Industry endorsement.



Statewide Program of Study: Food Science and Technology

The Food Science and Technology program of study focuses on the occupational and educational opportunities associated with the research, production, and processing of food from plants and animals. This program of study includes exploration of safety, processing, preserving, packaging, and storing food for human consumption.

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 occupations ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist.



Secondary Courses for High School Credit

- Level 1**
 - 8050-Principles of Agriculture, Food, and Natural Resources M
 - 8065-Principles of Agriculture, Food, and Natural Resources H M
- Level 2**
 - 8080-Food Technology and Safety M
 - 8083-Food Technology and Safety D M
- Level 3**
 - 8081-Food Processing + Agricultural Laboratory and Field Experience M (2CR)
- Level 4**
 - 8082-Practicum in Agriculture, Food, and Natural Resources – Food Processing M (2CR)

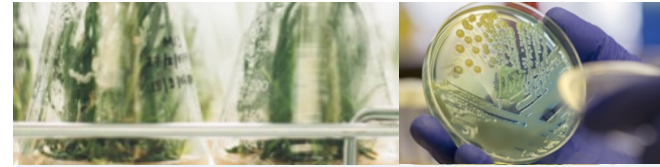
Recommended Aligned Advanced Academic Courses

AP or IB	AP Biology AP Chemistry
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Shadow employees at a food production company to learn about application of food science to production and quality control Intern in a food science lab working alongside a food science technician to learn about safe and efficient processing of food products
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in an FFA career, leadership, and speaking contest like an agriscience fair Participate in an industry-related competition like an agriscience fair

NISD Aligned Industry Based Certifications (IBC)



Example Postsecondary Opportunities

Apprenticeships

- Butcher

Associate Degrees

- Biology/Biological Sciences

Bachelor's Degrees

- Food Science and Technology
- Human Nutrition

Master's, Doctoral, and Professional Degrees

- Human Nutrition
- Food Science and Technology

Additional Stackable IBCs/License

- National Meat Cutting and Processing Certification



Example Aligned Occupations



Butchers and Meat Cutters

Median Wage: \$35,554

Annual Openings: 2,044

10-Year Growth: 17%

Food Science Technicians

Median Wage: \$53,890

Annual Openings: 227

10-Year Growth: 18%

Agricultural Inspectors

Median Wage: \$50,690

Annual Openings: 181

10-Year Growth: 14%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024

For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Successful completion of the Food Science and Technology program of study will fulfill requirements of the Business and Industry endorsement.

Statewide Program of Study: Plant Science

The Plant Science program of study focuses on occupational and educational opportunities associated with the science, research, and business of plants and other living organisms. This program of study includes the application of biology and life science to real-world life processes of plants and vegetation, either in laboratories or in the field.

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 occupations ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist.

Secondary Courses for High School Credit

- | | |
|----------------|--|
| Level 1 | <ul style="list-style-type: none"> 8050-Principles of Agriculture, Food, and Natural Resources M 8065-Principles of Agriculture, Food, and Natural Resources H M |
| Level 2 | <ul style="list-style-type: none"> 8059-Greenhouse Operation & Production M 8089-Greenhouse Operation & Production D M <p>OR</p> <ul style="list-style-type: none"> 8057-Floral Design M 8057ADV-Floral Design (2028 Graduates Only) 8047-Floral Design D M |
| Level 3 | <ul style="list-style-type: none"> 8060-Advanced Plant and Soil Science M 8067-Advanced Plant and Soil Science D M <p>OR</p> <ul style="list-style-type: none"> 8069-Advanced Floral Design M |
| Level 4 | <ul style="list-style-type: none"> 8068 Practicum in Agriculture, Food, and Natural Resources-Plant Science M |

Recommended Aligned Advanced Academic Courses

AP	<ul style="list-style-type: none"> AP Biology AP Environmental Science AP Chemistry
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability. .

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Work in a part-time job at a landscaping company to learn about production and management of plants. Intern at an agricultural research company, working alongside a biological technician to learn about application of biology to plant production
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in an FFA career, leadership, and speaking contest like an agriscience fair Participate in an industry-related competition like an agriscience fair

NISD Aligned Industry-Based Certifications (IBC)

TEA A-F Recognized IBC

- BASF Plant Science Certification
- Commercial/Noncommercial Pesticide Applicator
- Texas Certified Landscape Associate (TCLA)
- Texas Certified Nursery Professional
- Texas State Florists' Association Knowledge Based Floral Certification
- Texas State Florists' Association Level I Floral Certification
- Texas State Florists' Association Level II Floral Certification

Successful completion of the Plant Science program of study will fulfill requirements of the Business and Industry endorsement.



Example Postsecondary Opportunities

Apprenticeships

- Horticulturist

Associate Degrees

- Biology/Biological Sciences
- Biological and Physical Sciences

Bachelor's Degrees

- Horticulture
- Plant Pathology/Phytopathology

Master's, Doctoral, and Professional Degrees

- Plant Breeding
- Botany/Plant Biology

Additional Stackable IBCs/License

- Nursery Floral License
- Horticulturist Certification



Example Aligned Occupations

Pesticide Handlers, Sprayers, and Applicators, Vegetation

Median Wage: \$46,153

Annual Openings: 205

10-Year Growth: 17%

Biological Technicians

Median Wage: \$45,787

Annual Openings: 879

10-Year Growth: 14%

Farmers, Ranchers, and Other Agricultural Managers

Median Wage: \$65,490

Annual Openings: 28,020

10-Year Growth: 4%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Statewide Program of Study: Early Learning

The Early Learning program of study focuses on occupational and educational opportunities associated with instructing and supporting preschool and early elementary school students. This program of study addresses social, physical, and intellectual growth and skills necessary for planning, directing, and coordinating activities for young children.

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. This career cluster includes occupations ranging from teaching assistant and classroom teacher to school administrator.



Secondary Courses for High School Credit

- | | |
|---------|--|
| Level 1 | • 8230-Principles of Education and Training M |
| Level 2 | • 8231-Child Development M |
| Level 3 | • 8232-Child Guidance M (2CR)
• 8463-Child Guidance D (2CR) |
| Level 4 | • 8261-Practicum in Early Learning M (2CR) |

Recommended Aligned Advanced Academic Courses

Dual Credit

Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Serve as a summer camp counselor for pre-school or kindergarten students
- Serve as a teaching assistant at a lab school or daycare

Expanded Learning Opportunities

- Participate in FCCLA
- Participate in TAFE

NISD Aligned Industry-Based Certifications

TEA A-F Recognized IBC

- Educational Aide I



Example Postsecondary Opportunities

Apprenticeships

- Child Care Development Specialist

Associate Degrees

- Teacher Education, Multiple Levels
- Child Care Provider/Assistant

Bachelor's Degrees

- Elementary Education and Teaching
- Early Childhood and Family Studies

Master's, Doctoral, and Professional Degrees

- Educational Leadership and Administration, General
- Education, General

Additional Stackable IBCs/License

- Certified Child Care Professional



Example Aligned Occupations

Child Care Workers

Median Wage: \$23,528
Annual Openings: 12,823
10-Year Growth: 17%

Preschool Teachers, Except Special Education

Median Wage: \$24,127
Annual Openings: 4,148
10-Year Growth: 26%

Elementary School Teachers, Except Special Education

Median Wage: \$61,389
Annual Openings: 11,712
10-Year Growth: 13%



Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>

Statewide Program of Study: Teaching and Training



The Teaching and Training program of study focuses on occupational and educational opportunities associated with careers related to teaching, instructing, and creating instructional and enrichment materials. The program of study includes recognizing a variety of student groups and their corresponding needs, identifying processes for developing curriculum and coordinating educational content, and coaching groups and individuals.

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. This career cluster includes a diverse spectrum of occupations, ranging from teaching assistant, classroom teacher, to school administrator.



Secondary Courses for High School Credit

Level 1	• 8230-Principles of Education and Training M
Level 2	• 8231-Child Development M
Level 3	• 8233-Instructional Practices M (2CR)
Level 4	• 8260-Practicum in Education and Training M (2CR)

Recommended Aligned Advanced Academic Courses

Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.
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Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> • Serve as a summer camp counselor for pre-school or kindergarten students • Serve as a teaching assistant at a lab school or daycare
Expanded Learning Opportunities	<ul style="list-style-type: none"> • Participate in FCCLA • Participate in TAFE

NISD Aligned Industry-Based Certifications

- TEA A-F Recognized IBC
- Educational Aide I



Example Postsecondary Opportunities

Apprenticeships

- Teacher Apprentice



Associate Degrees

- Adult and Continuing Education and Teaching
- Educational/Instructional Technology

Bachelor's Degrees

- Elementary Education and Teaching
- Secondary Education and Teaching

Master's, Doctoral, and Professional Degrees

- Educational Leadership and Administration, General
- Curriculum and Instruction

Additional Stackable IBCs/License

- Generalist, Grades EC-4

Example Aligned Occupations

Teaching Assistants, Except Postsecondary

Median Wage: \$28,066
Annual Openings: 10,000
10-Year Growth: 15%

Secondary School Teachers, Except Special Education and CTE

Median Wage: \$61,035
Annual Openings: 8,288
10-Year Growth: 14%

Education Administrators, Kindergarten through Secondary

Median Wage: \$81,976
Annual Openings: 2,676
10-Year Growth: 14%



Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:
<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>

Statewide Program of Study: Digital Communication



The Digital Communications program of study focuses on occupational 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. The program of study includes operating machines and equipment such as microphones, sound speakers, video screens, projectors, video monitors, sound and mixing boards, and related electronic equipment to record sound and images.

Arts, Audio Visual Technology, and Communication Career Cluster

The Arts, Audio Visual Technology, and Communication (AAVTC) career cluster focuses on designing, producing, exhibiting, performing, writing, and publishing multimedia content requiring creative aptitude, fluency in computer and technology applications, and proficiency in oral and written communication. This career cluster includes occupations ranging from camera operator, audio and video technician, director, and producer to graphic designer and web and digital interface designer.



Audio Video Production

Secondary Courses for High School Credit

- | | |
|---------|--|
| Level 1 | <ul style="list-style-type: none"> 8175-Principles of Arts, Audio/Video Technology, and Communications M |
| Level 2 | <ul style="list-style-type: none"> 8179-Digital Communication of the 21st Century M 8518-Digital Communication of the 21st Century D |
| Level 3 | <ul style="list-style-type: none"> 8173-Audio Video Production I M 8191-Audio Video Production I/Lab (2CR) |
| Level 4 | <ul style="list-style-type: none"> 8168-Audio Video Production II/Lab M (2CR) 8163-Audio Video Production II/Lab D (2CR) 8178-3D Modeling and Animation M (Advanced Course, Optional Program of Study Course) |

Recommended Aligned Advanced Academic Courses

AP or IB	AP Calculus AP US History AP English
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studied, English, World Languages, and Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Shadow an art director at a branding firm or design agency Intern in the marketing and communications department of a technology company
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in SkillsUSA or TSA Participate in Student Television Network Join a related co-curricular or extracurricular club such as web development or computer coding

NISD Aligned Industry-Based Certifications

TEA A-F Recognized IBC

- Adobe Certified Professional (ACP)
 - Photoshop
 - Illustrator
 - After Effects
 - Premier Pro

NISD Performance Acknowledgment

- Toon Boom



Example Postsecondary Opportunities

Apprenticeships

- Light Technician

Associate Degrees

- Commercial and Advertising Art
- Animation, Interactive Technology, Video Graphics, and Special Effects

Bachelor's Degrees

- Cinematography and Film/Video Production
- Recording Arts Technology

Master's, Doctoral, and Professional Degrees

- Animation, Interactive Technology, Video Graphics, and Special Effects
- Communications Technology

Additional Stackable IBCs/License

- CompTIA Digital Media and Entertainment Professional Certification (DMEP)

Example Aligned Occupations

Camera Operators, Television, Video, and Film

Median Wage: \$48,422
Annual Openings: 155
10-Year Growth: 20%

Audio and Video Technicians

Median Wage: \$46,319
Annual Openings: 626
10-Year Growth: 30%

Producers and Directors

Median Wage: \$65,029
Annual Openings: 522
10-Year Growth: 12%



Data Source: Texas Wages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Successful completion of the Digital Communications program of study will fulfill requirements of the Business and Industry endorsement.

Statewide Program of Study: *Graphic Design and Interactive Media*



The Graphic Design and Interactive Media program of study focuses on occupational and educational opportunities associated with designing or creating graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. The program of study includes 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.

Arts, Audio Visual Technology, and Communication Career Cluster

The Arts, Audio Visual Technology, and Communication (AAVTC) career cluster focuses on designing, producing, exhibiting, performing, writing, and publishing multimedia content requiring creative aptitude, fluency in computer and technology applications, and proficiency in oral and written communication. This career cluster includes occupations ranging from camera operator, audio and video technician, director, and producer to graphic designer and web and digital interface designer.

Animation

Secondary Courses for High School Credit

Level 1	<ul style="list-style-type: none"> 8175-Principles of Arts, Audio/Video Technology, and Communications M
Level 2	<ul style="list-style-type: none"> 8522-Digital Media M 8521-Digital Media D
Level 3	<ul style="list-style-type: none"> 8171-Animation I M 8190 Animation/Lab M (2CR)
Level 4	<ul style="list-style-type: none"> 8172-Animation II/Lab M (2CR) 8178-3D Modeling and Animation M (Advanced Course, Optional Program of Study Course)

Recommended Aligned Advanced Academic Courses

AP or IB	AP Calculus AP US History AP English
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studied, English, World Languages, and Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Shadow an art director at a branding firm or design agency Intern in the marketing and communications department of a technology company
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in SkillsUSA or TSA Participate in Student Television Network Join a related co-curricular or extracurricular club such as web development or computer coding

NISD Aligned Industry-Based Certifications

TEA A-F Recognized IBC

- Adobe Certified Professional (ACP)
 - Photoshop
 - Illustrator
 - After Effects
 - Premier Pro

NISD Performance Acknowledgment

- Toon Boom



Example Postsecondary Opportunities

Associate Degrees

- Graphic Design
- Digital Arts



Bachelor's Degrees

- Web Page, Digital/Multimedia and Information Resources Design
- Design and Visual Communications

Master's, Doctoral, and Professional Degrees

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

Additional Stackable IBCs/License

- Certified Textile Designer (CTD)



Example Aligned Occupations

Software Developers

Median Wage: \$111,705
Annual Openings: 15,324
10-Year Growth: 36%

Graphic Designers

Median Wage: \$50,973
Annual Openings: 1,766
10-Year Growth: 10%

Art Directors

Median Wage: \$81,926
Annual Openings: 619
10-Year Growth: 18%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Successful completion of the Graphic Design and Interactive Media program of study will fulfill requirements of the Business and Industry endorsement.

Statewide Program of Study: Architectural Drafting and Design

The Architectural Drafting and Design program of study focuses on occupational and educational opportunities associated with developing, engineering, and designing building structures and facilities. This program of study includes reading, interpreting, and drawing blueprints for interior and exterior construction projects.

Architecture and Construction Career Cluster

The Architecture and Construction career cluster focuses on designing, planning, managing, building, and maintaining the built environment. This career cluster includes occupations ranging from architect, carpenter, and construction manager to electrician, plumber and heating, air conditioning, and refrigeration technician.



Secondary Courses for High School Credit

- | | |
|---------|--|
| Level 1 | • 8096-Principles of Construction M |
| Level 2 | • 8105-Architectural Design I M |
| Level 3 | • 8147-Architectural Design II M (2CR) |
| Level 4 | • 8148-Practicum in Architectural Design M (2CR) |

Recommended Aligned Advanced Academic Courses

Dual Credit

Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Intern at an architectural firm to develop CADD drafting and design technology skills
- Shadow a civil engineer to learn more about their day-to-day responsibilities

Expanded Learning Opportunities

- Conduct an informational interview with an architect to learn about their role and responsibilities
- Participate in SkillsUSA or TSA

NISD Aligned Industry-Based Certifications (IBC)

TEA A-F Recognized IBC

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

NISD Performance Acknowledgement

- OSHA 10
- NCCER CORE



Example Postsecondary Opportunities

Apprenticeships

- Drafter



Associate Degrees

- CAD/CADD Drafting and/or Design Technology
- Drafting and Design Technology
- Surveying Technology/Surveying
- Architectural Drafting and Architectural CAD/CADD

Bachelor's Degrees

- Civil Engineering
- Construction Engineering
- Surveying Engineering
- Drafting and Design Technology

Master's, Doctoral, and Professional Degrees

- Civil Engineering
- Geographic Information Science and Cartography
- Construction Engineering Technology

Example Aligned Occupations



Architectural and Civil Drafters

Median Wage: \$57,424
 Annual Openings: 1,366
 10-Year Growth: 15%

Architects

Median Wage: \$80,903
 Annual Openings: 966
 10-Year Growth: 18%

Construction Managers

Median Wage: \$95,072
 Annual Openings: 6,325
 10-Year Growth: 24%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Successful completion of the Architectural Drafting and Design program of study will fulfill requirements of the Business and Industry endorsement.

Statewide Program of Study: Carpentry



The Carpentry program of study focuses on occupational and educational opportunities related to constructing, installing, and repairing structures and fixtures made of wood (including frameworks, partitions, joists, studding, rafters, and stairways). The program of study includes installing, dismantling, or moving machinery and heavy equipment according to layout plans, blueprints, or other drawings.

Architecture and Construction Career Cluster

The Architecture and Construction career cluster focuses on designing, planning, managing, building, and maintaining the built environment. This career cluster includes occupations ranging from architect, carpenter, and construction manager to electrician, plumber, and heating, air conditioning, and refrigeration technician.



Secondary Courses for High School Credit

- | | |
|---------|--|
| Level 1 | <ul style="list-style-type: none"> 8096-Principles of Construction M |
| Level 2 | <ul style="list-style-type: none"> 8097-Principles of Architecture M 8612-Principles of Architecture D |
| Level 3 | <ul style="list-style-type: none"> 8107-Construction Technology I M (2CR) 8141-Construction Technology I D (2CR) |
| Level 4 | <ul style="list-style-type: none"> 8129-Construction Technology II M (2CR) 8142-Construction Technology II D (2CR) |

Recommended Aligned Advanced Academic Courses

Dual Credit

Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Intern with a carpenter to practice skills such as measuring materials and assembling structures
- Participate in a pre-apprenticeship that includes activities like installing cabinets, drywall, and siding

Expanded Learning Opportunities

- Shadow a construction manager to learn more about how construction teams work together to complete projects
- Participate in SkillsUSA

NISD Aligned Industry-Based Certifications (IBC)

NISD A-F Recognized IBC

- NCCER Carpentry Level I
- NCCER Carpentry Level II
- NCCER Core

NISD Performance Acknowledgement

- OSHA 10 Hour



Example Postsecondary Opportunities

Apprenticeships

- Carpenter

Associate Degrees

- Construction Management
- Construction Engineering Technology
- Building Construction Technology



Bachelor's Degrees

- Construction Engineering
- Construction Science
- Construction Site Management

Master's, Doctoral, and Professional Degrees

- Construction Engineering Technology
- Construction Engineering
- Construction Management
- Project Management

Example Aligned Occupations



Drywall and Ceiling Tile Installers

Median Wage: \$44,699
Annual Openings: 758
10-Year Growth: 14%

Carpenters

Median Wage: \$46,272
Annual Openings: 5,623
10-Year Growth: 15%

Construction Managers

Median Wage: \$95,072
Annual Openings: 6,325
10-Year Growth: 24%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>

Statewide Program of Study: Civil Engineering

The Civil Engineering program of study focuses on occupational and educational opportunities associated with the design, build, operation, and maintenance of infrastructure related to roads, buildings, airports, bridges, and transportation systems. This program of study includes exploration of infrastructure, site inspections, feasibility assessments and scope, and cost estimates. It addresses applying scientific, mathematical, and empirical evidence to solve problems in construction, infrastructure, and the environment.

Engineering Career Cluster

The Engineering career cluster focuses on planning, designing, testing, building, and maintaining of machines, structures, materials, systems, and processes using empirical evidence and science, technology, and math principles. This career cluster includes occupations ranging from mechanical engineer and drafter to electrical engineer and to mapping technician.



Secondary Courses for High School Credit

- | | |
|---------|--|
| Level 1 | • 8096-Principles of Construction M |
| Level 2 | • Civil Engineering I (TBD) |
| Level 3 | • Civil Engineering II (TBD) |
| Level 4 | • Practicum in Science, Technology, Engineering, and Mathematics-Civil Engineering (2CR) |

Recommended Aligned Advanced Academic Courses

AP	<ul style="list-style-type: none"> AP Calculus AB AP Calculus BC AP Physics 1 AP Physics 2 AP Statistics
Dual Credit	<p>Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability. .</p>

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Intern at a local infrastructure company and use computer-aided design (CAD) Shadow a civil engineering professional
Expanded Learning Opportunities	<ul style="list-style-type: none"> Tour a construction site Participate in SkillsUSA or TSA Join a local engineering association and attend meetings

NISD Aligned Industry-Based Certifications (IBC)

TEA A-F Recognized IBC

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

NISD Performance Acknowledgement

- OSHA 10-Hour- General
- NCCER CORE
- Land Survey Tech I



Example Postsecondary Opportunities

Apprenticeships

- Surveyor Assistant Instrument Apprentice

Associate Degrees

- Civil Engineering, General
- Surveying Technology/Surveying

Bachelor's Degrees

- Civil Engineering, General
- Construction Engineering

Master's, Doctoral, and Professional Degrees

- Civil Engineering, General
- Surveying Engineering

Additional Stackable IBCs/License

- Professional Civil Engineer (CE License)
- Civil Engineering Certification ASCE

Example Aligned Occupations

Surveying and Mapping Technicians

Median Wage: \$45,804
Annual Openings: 1,487
10-Year Growth: 18%

Architectural and Civil Drafters

Median Wage: \$57,424
Annual Openings: 1,366
10-Year Growth: 15%

Civil Engineers

Median Wage: \$80,980
Annual Openings: 2,823
10-Year Growth: 22%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Statewide Program of Study: Construction Management and Inspection

The Construction Management and Inspection program of study focuses on occupational and educational opportunities associated with producing cost estimates for construction projects to support bidding on or determining the price of products or services. The program of study includes inspecting structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations.

Architecture and Construction Career Cluster

The Architecture and Construction career cluster focuses on designing, planning, managing, building, and maintaining the built environment. This career cluster includes occupations ranging from architect, carpenter, and construction manager to electrician, plumber, and heating, air conditioning, and refrigeration technician.



Secondary Courses for High School Credit

- | | |
|---------|--|
| Level 1 | <ul style="list-style-type: none"> 8096-Principles of Construction M |
| Level 2 | <ul style="list-style-type: none"> 8097-Principles of Architecture M 8612-Principles of Architecture D |
| Level 3 | <ul style="list-style-type: none"> 8108-Construction Management I M (2CR) 8140-Construction Management I D (2CR) |
| Level 4 | <ul style="list-style-type: none"> 8130-Construction Management II M (2CR) 8133-Construction Management II D (2CR) |

Recommended Aligned Advanced Academic Courses

Dual Credit

Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Shadow a construction manager to learn how to lead a team and develop a budget
- Participate in a pre-apprenticeship to clean and prepare construction sites by digging trenches and setting up scaffolding

Expanded Learning Opportunities

- Shadow a building inspector or cost estimator
- Participate in SkillsUSA

NISD Aligned Industry-Based Certifications (IBC)

TEA A-F Recognized IBC

- NCCER Core

NISD Performance Acknowledgement

- OSHA 10 Hour
- NCCER Carpentry Level I



Example Postsecondary Opportunities

Apprenticeships

- Building Inspector

Associate Degrees

- Construction Management
- Construction Engineering Technology
- Building/Property Maintenance
- Building/Construction Site Management



Bachelor's Degrees

- Construction Engineering Technology
- Construction Management
- Building/Property Maintenance

Master's, Doctoral, and Professional Degrees

- Construction Engineering Technology
- Construction Engineering
- Construction Management
- Project Management

Example Aligned Occupations



Construction and Building Inspectors

Median Wage: \$62,251
Annual Openings: 1,585
10-Year Growth: 9%

First-Line Supervisors of Construction Trades and Extraction Workers

Median Wage: \$64,473
Annual Openings: 9,513
10-Year Growth: 23%

Construction Managers

Median Wage: \$95,072
Annual Openings: 6,325
10-Year Growth: 24%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:
<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Successful completion of the Construction Management and Inspection program of study will fulfill requirements of the Business and Industry endorsement.



Statewide Program of Study: *Electrical*

The Electrical program of study focuses on occupational and educational opportunities associated with installing, maintaining, and repairing electrical wiring, equipment, and fixtures. The program of study also addresses installing and repairing telecommunications cable including fiber optics.

Architecture and Construction Career Cluster

The Architecture and Construction career cluster focuses on designing, planning, managing, building, and maintaining the built environment. This career cluster includes occupations ranging from architect, carpenter, and construction manager to electrician, plumber and heating, air conditioning and refrigeration technician.



Secondary Courses for High School Credit

Level 1	• 8096-Principles of Construction M
Level 2	• 8115-Electrical Technology I M • 8145-Electrical Technology I D
Level 3	• 8116-Electrical Technology II M (2CR) • 8146-Electrical Technology II D (2CR)
Level 4	• 8165-Practicum in Construction Technology-Electrical M (2CR)

Recommended Aligned Advanced Academic Courses

Dual Credit

Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Participate in an internship with an electrical company to develop installation skills
- Join a pre-apprenticeship program that involves determining if electrical wiring is up to code
- Interview an electrician about their training and education

Expanded Learning Opportunities

- Participate in SkillsUSA
- Participate in trade competitions

NISD Aligned Industry-Based Certifications (IBC)

TEA A-F Recognized IBC

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

NISD Performance Acknowledgement

- OSHA 10-Hour- General



Example Postsecondary Opportunities

Apprenticeships

- Electrician

Associate Degrees

- Electrical and Power Transmission Installation
- Electrical Power and Controls
- Electromechanical Technology

Bachelor's Degrees

- Construction Engineering
- Electrical, Electronic, and Communications
- Engineering Electrical Engineering

Master's, Doctoral, and Professional Degrees

- Construction Engineering
- Construction Management

Additional Stackable IBCs/License

- Journeyman Electrician
- Master Electrician

Example Aligned Occupations

Electricians Helpers

Median Wage: \$38,140
Annual Openings: 1,632
10-Year Growth: 20%

Electricians

Median Wage: \$54,769
Annual Openings: 9,221
10-Year Growth: 27%

Construction Managers

Median Wage: \$95,072
Annual Openings: 6,325
10-Year Growth: 24%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Statewide Program of Study: Plumbing and Pipefitting

The Plumbing and Pipefitting program of study focuses on occupational and educational opportunities related to assembling, installing, and repairing pipes, fittings, or fixtures of heating, water, and drainage systems. The program of study includes maintaining pipe supports and related hydraulic or pneumatic equipment for steam, hot water, heating, cooling, lubricating, and sprinkling.

Architecture and Construction Career Cluster

The Architecture and Construction career cluster focuses on designing, planning, managing, building, and maintaining the built environment. This career cluster includes occupations ranging from architect, carpenter, and construction manager to electrician, plumber and heating, air conditioning, and refrigeration technician.



Secondary Courses for High School Credit

- Level 1** • 8096-Principles of Construction M
- Level 2** • 8119-Plumbing Technology I M
• 8132-8119-Plumbing Technology I D
- Level 3** • 8120-Plumbing Technology II M (2CR)
• 8144-Plumbing Technology II D (2CR)
- Level 4** • 8165-Practicum in Construction Technology-Plumbing M (2CR)

Recommended Aligned Advanced Academic Courses

Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.
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Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Complete a pre-apprenticeship in plumbing or pipefitting to develop skills in assembling, installing, and repairing pipes Shadow a plumber who is repairing and drainage systems
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in SkillsUSA Tour apprenticeship programs

NISD Aligned Industry-Based Certifications (IBC)

TEA A-F Recognized IBC

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

NISD Performance Acknowledgement

- OSHA 10 Hour
- Plumbing Apprenticeship



Example Postsecondary Opportunities

Apprenticeships

- Plumber
- Pipefitter

Associate Degrees

- Pipefitting/Pipefitter and Sprinkler Fitter
- Construction Site Management
- Plumbing Technology
- Property Maintenance

Bachelor's Degrees

- Construction Engineering
- Construction Management

Master's, Doctoral, and Professional Degrees

- Construction Engineering
- Construction Management

Additional Stackable IBCs/License

- Journeyman Plumber
- Master Plumber

Example Aligned Occupations



Helpers—Pipelayers, Plumbers, Pipefitters, and Steamfitters

Median Wage: \$36,352
Annual Openings: 1,482
10-Year Growth: 26%

Plumbers, Pipefitters, and Steamfitters

Median Wage: \$55,804
Annual Openings: 5,751
10-Year Growth: 22%

Construction Managers

Median Wage: \$95,072
Annual Openings: 6,325
10-Year Growth: 24%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024



For more information visit:
<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Successful completion of the Plumbing and Pipefitting program of study will fulfill requirements of the Business and Industry endorsement.



Statewide Program of Study: *Diagnostic and Therapeutic Services*

The Diagnostic and Therapeutic Services program of study focuses on occupational and educational opportunities associated with diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study includes exploration of patient treatment and rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

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. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.

Clinical Lab

Secondary Courses for High School Credit



Level 1	<ul style="list-style-type: none"> 8533-Principles of Health Science M 8534-Medical Terminology 8399-Medical Terminology D
Level 2	<ul style="list-style-type: none"> 8536-Health Science Theory M 8536ADV- Adv Health Science Theory M (2028 Graduates ONLY) AND 8377-Anatomy & Physiology M 8377ADV-Adv Anatomy & Physiology M (2028 Graduates ONLY) 8379-Anatomy & Physiology H 8376-Anatomy & Physiology D
Level 3	<ul style="list-style-type: none"> 8337-Medical Microbiology M 8387-Pathophysiology M
Level 4	<ul style="list-style-type: none"> 8395-Practicum in Health Science-Clinical Lab M (2CR)

Recommended Aligned Advanced Academic Courses

AP	<ul style="list-style-type: none"> AP Biology AP Chemistry AP Calculus AP English AP History
Dual Credit	<p>Various academic Dual Credit offered in Math, Science, Social Studied, English, World Languages, and Fine Arts. Check with your campus for availability.</p>

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Intern with a medical assistant at a community clinic, hospital, assisted living, or long-term care facility Participate in job shadowing experiences such as Emergency Medical Services (EMS) ride along or hospital/clinical job
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in HOSA-Future Health Professionals or SkillsUSA Participate in Advanced Medical Ambulance Bus (AMBUS) event or Community Emergency Response Team (CERT) event

NISD Aligned Industry-Based Certification (IBC)

TEA A-F Recognized IBC

- Certified Phlebotomy Technician (CPT)

NISD Performance Acknowledgment

- Basic Life Support (BLS) Healthcare Provider (Pathophysiology)



Example Postsecondary Opportunities

Apprenticeships

- Medical Assistant



Associate Degrees

- Emergency Medical Technology
- Radiologic Technology/Science

Bachelor's Degrees

- Emergency Medical Technology
- Medical Insurance Coding

Master's, Doctoral, and Professional Degrees

- Medicine
- Occupational Therapy

Additional Stackable IBCs/License

- Registered Diagnostic Medical Sonographer



Example Aligned Occupations

Medical Assistants

Median Wage: \$36,834
Annual Openings: 11,638
10-Year Growth: 29%

Dental Hygienists

Median Wage: \$79,663
Annual Openings: 1,352
10-Year Growth: 32%

Physician Assistants

Median Wage: \$127,332
Annual Openings: 974
10-Year Growth: 41%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Successful completion of the Diagnostic and Therapeutic Services program of study will fulfill requirements of the Public Services endorsement.



Statewide Program of Study: *Diagnostic and Therapeutic Services*

The Diagnostic and Therapeutic Services program of study focuses on occupational and educational opportunities associated with diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study includes exploration of patient treatment and rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

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. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.

Dental



Secondary Courses for High School Credit

Level 1	<ul style="list-style-type: none"> 8533-Principles of Health Science M 8534-Medical Terminology 8399-Medical Terminology D
Level 2	<ul style="list-style-type: none"> 8536-Health Science Theory M 8536ADV- Adv Health Science Theory M (2028 Graduates ONLY) AND 8377-Anatomy & Physiology M 8377ADV-Adv Anatomy & Physiology M (2028 Graduates ONLY) 8379-Anatomy & Physiology H 8376-Anatomy & Physiology D
Level 3	<ul style="list-style-type: none"> 8374-Practicum in Health Science-Dental M (2CR)
Level 4	<ul style="list-style-type: none"> 8365-8374-Practicum in Health Science-Dental M (2CR)

Recommended Aligned Advanced Academic Courses

AP	<ul style="list-style-type: none"> AP Biology AP Chemistry AP Calculus AP English AP History
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studied, English, World Languages, and Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Intern with a medical assistant at a community clinic, hospital, assisted living, or long-term care facility Participate in job shadowing experiences such as Emergency Medical Services (EMS) ride along or hospital/clinical job
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in HOSA-Future Health Professionals or SkillsUSA Participate in Advanced Medical Ambulance Bus (AMBUS) event or Community Emergency Response Team (CERT) event

NISD Aligned Industry-Based Certification (IBC)

- TEA A-F Recognized IBC**
- Registered Dental Assistant X-Ray Certification
- NISD Performance Acknowledgment**
- Basic Life Support (BLS) Healthcare Provider



Example Postsecondary Opportunities

Apprenticeships

- Medical Assistant

Associate Degrees

- Emergency Medical Technology
- Radiologic Technology/Science

Bachelor's Degrees

- Emergency Medical Technology
- Medical Insurance Coding

Master's, Doctoral, and Professional Degrees

- Medicine
- Occupational Therapy

Additional Stackable IBCs/License

- Registered Diagnostic Medical Sonographer



Example Aligned Occupations

Medical Assistants

Median Wage: \$36,834
Annual Openings: 11,638
10-Year Growth: 29%

Dental Hygienists

Median Wage: \$79,663
Annual Openings: 1,352
10-Year Growth: 32%

Physician Assistants

Median Wage: \$127,332
Annual Openings: 974
10-Year Growth: 41%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:
<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Successful completion of the Diagnostic and Therapeutic Services program of study will fulfill requirements of the Public Services endorsement.



Statewide Program of Study: *Diagnostic and Therapeutic Services*

The Diagnostic and Therapeutic Services program of study focuses on occupational and educational opportunities associated with diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study includes exploration of patient treatment and rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

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. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.



Medical Assistant Secondary Courses for High School Credit

- Level 1**
 - 8533-Principles of Health Science M
 - 8534-Medical Terminology
 - 8399-Medical Terminology D
- Level 2**
 - 8536-Health Science Theory M
 - 8536ADV- Adv Health Science Theory M (2028 Graduates ONLY) AND
 - 8377-Anatomy & Physiology M
 - 8377ADV-Adv Anatomy & Physiology M (2028 Graduates ONLY)
 - 8379-Anatomy & Physiology H
 - 8376-Anatomy & Physiology D
- Level 3**
 - 8391-Practicum in Health Science- Off Campus Clinicals M (2CR)
- Level 4**
 - 8390-Practicum in Health Science- Medical Assistant M (2CR)

Recommended Aligned Advanced Academic Courses

AP	AP Biology AP Chemistry
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studied, English, World Languages, and Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Intern with a medical assistant at a community clinic, hospital, assisted living, or long-term care facility Participate in job shadowing experiences such as Emergency Medical Services (EMS) ride along or hospital/clinical job
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in HOSA-Future Health Professionals or SkillsUSA Participate in Advanced Medical Ambulance Bus (AMBUS) event or Community Emergency Response Team (CERT) event

NISD Aligned Industry-Based Certification (IBC)

TEA A-F Recognized IBC

- Certified Clinical Medical Assistant (CCMA)

NISD Performance Acknowledgment

- Basic Life Support (BLS) Healthcare Provider

Successful completion of the Diagnostic and Therapeutic Services program of study will fulfill requirements of the Public Services endorsement.



Example Postsecondary Opportunities

Apprenticeships

- Medical Assistant

Associate Degrees

- Emergency Medical Technology
- Radiologic Technology/Science

Bachelor's Degrees

- Emergency Medical Technology
- Medical Insurance Coding

Master's, Doctoral, and Professional Degrees

- Medicine
- Occupational Therapy

Additional Stackable IBCs/License

- Registered Diagnostic Medical Sonographer

Example Aligned Occupations

Medical Assistants

Median Wage: \$36,834
Annual Openings: 11,638
10-Year Growth: 29%

Dental Hygienists

Median Wage: \$79,663
Annual Openings: 1,352
10-Year Growth: 32%

Physician Assistants

Median Wage: \$127,332
Annual Openings: 974
10-Year Growth: 41%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>





Statewide Program of Study: *Diagnostic and Therapeutic Services*

The Diagnostic and Therapeutic Services program of study focuses on occupational and educational opportunities associated with diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study includes exploration of patient treatment and rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

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. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.



Medical Research

Secondary Courses for High School Credit

- | | |
|---------|---|
| Level 1 | <ul style="list-style-type: none"> 8533-Principles of Health Science M 8534-Medical Terminology 8399-Medical Terminology D |
| Level 2 | <ul style="list-style-type: none"> 8536-Health Science Theory M 8536ADV- Adv Health Science Theory M (2028 Graduates ONLY) AND 8377-Anatomy & Physiology M 8377ADV-Adv Anatomy & Physiology M (2028 Graduates ONLY) 8379-Anatomy & Physiology H 8376-Anatomy & Physiology D |
| Level 3 | <ul style="list-style-type: none"> 8337-Medical Microbiology M 8387 Pathophysiology M |
| Level 4 | <ul style="list-style-type: none"> 8396-Practicum in Health Science-Medical Research M (2CR) |

Recommended Aligned Advanced Academic Courses

AP	<ul style="list-style-type: none"> AP Biology AP Chemistry AP Calculus 	<ul style="list-style-type: none"> AP English AP History
Dual Credit	<p>Various academic Dual Credit offered in Math, Science, Social Studied, English, World Languages, and Fine Arts. Check with your campus for availability.</p>	

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Intern with a medical assistant at a community clinic, hospital, assisted living, or long-term care facility Participate in job shadowing experiences such as Emergency Medical Services (EMS) ride along or hospital/clinical job
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in HOSA-Future Health Professionals) or SkillsUSA Participate in Advanced Medical Ambulance Bus (AMBUS) event or Community Emergency Response Team (CERT) event

NISD Aligned Industry-Based Certification (IBC)

NISD Performance Acknowledgment

- Basic Life Support (BLS) Healthcare Provider (Pathophysiology)



Example Postsecondary Opportunities

Apprenticeships

- Medical Assistant

Associate Degrees

- Emergency Medical Technology
- Radiologic Technology/Science

Bachelor's Degrees

- Emergency Medical Technology
- Medical Insurance Coding

Master's, Doctoral, and Professional Degrees

- Medicine
- Occupational Therapy

Additional Stackable IBCs/License

- Registered Diagnostic Medical Sonographer

Example Aligned Occupations

Medical Assistants

Median Wage: \$36,834
Annual Openings: 11,638
10-Year Growth: 29%

Dental Hygienists

Median Wage: \$79,663
Annual Openings: 1,352
10-Year Growth: 32%

Physician Assistants

Median Wage: \$127,332
Annual Openings: 974
10-Year Growth: 41%



Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

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Successful completion of the Diagnostic and Therapeutic Services program of study will fulfill requirements of the Public Services endorsement.



Statewide Program of Study: *Diagnostic and Therapeutic Services*

The Diagnostic and Therapeutic Services program of study focuses on occupational and educational opportunities associated with diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study includes exploration of patient treatment and rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

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. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.



Pharmacy Technician Secondary Courses for High School Credit

- Level 1**
 - 8533-Principles of Health Science M
 - 8534-Medical Terminology
 - 8399-Medical Terminology D
- Level 2**
 - 8536-Health Science Theory M
 - 8536ADV- Adv Health Science Theory M (2028 Graduates ONLY) AND
 - 8377-Anatomy & Physiology M
 - 8377ADV-Adv Anatomy & Physiology M (2028 Graduates ONLY)
 - 8379-Anatomy & Physiology H
 - 8376-Anatomy & Physiology D
- Level 3**
 - 8394-Practicum in Health Science-Pharmacy Technician M (2CR)
- Level 4**
 - 8539-Practicum in Health Science-Pharmacy Technician M (2CR)

Recommended Aligned Advanced Academic Courses

AP	AP Biology AP Chemistry AP Calculus	AP English AP History
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studied, English, World Languages, and Fine Arts. Check with your campus for availability.	

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Intern with a medical assistant at a community clinic, hospital, assisted living, or long-term care facility Participate in job shadowing experiences such as Emergency Medical Services (EMS) ride along or hospital/clinical job
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in HOSA-Future Health Professionals or SkillsUSA Participate in Advanced Medical Ambulance Bus (AMBUS) event or Community Emergency Response Team (CERT) event

NISD Aligned Industry-Based Certification (IBC)

NISD Performance Acknowledgment

- Basic Life Support (BLS) Healthcare Provider
- Sterile Processing & Distribution Technician (CSPD)



Example Postsecondary Opportunities

Apprenticeships

- Medical Assistant



Associate Degrees

- Emergency Medical Technology
- Radiologic Technology/Science

Bachelor's Degrees

- Emergency Medical Technology
- Medical Insurance Coding

Master's, Doctoral, and Professional Degrees

- Medicine
- Occupational Therapy

Additional Stackable IBCs/License

- Registered Diagnostic Medical Sonographer



Example Aligned Occupations

Medical Assistants

Median Wage: \$36,834
Annual Openings: 11,638
10-Year Growth: 29%

Dental Hygienists

Median Wage: \$79,663
Annual Openings: 1,352
10-Year Growth: 32%

Physician Assistants

Median Wage: \$127,332
Annual Openings: 974
10-Year Growth: 41%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Successful completion of the Diagnostic and Therapeutic Services program of study will fulfill requirements of the Public Services endorsement.



Statewide Program of Study: *Diagnostic and Therapeutic Services*

The Diagnostic and Therapeutic Services program of study focuses on occupational and educational opportunities associated with diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study includes exploration of patient treatment and rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

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. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.



Sterile Processing Secondary Courses for High School Credit

- Level 1**
 - 8533-Principles of Health Science M
 - 8534-Medical Terminology
 - 8399-Medical Terminology D
- Level 2**
 - 8536-Health Science Theory M
 - 8536ADV- Adv Health Science Theory M (2028 Graduates ONLY) AND
 - 8377-Anatomy & Physiology M
 - 8377ADV-Adv Anatomy & Physiology M (2028 Graduates ONLY)
 - 8379-Anatomy & Physiology H
 - 8376-Anatomy & Physiology D
- Level 3**
 - 8391-Practicum in Health Science-Clinicals M (2CR)
- Level 4**
 - 8392-Practicum in Health Science-Sterile Processing M (2CR)

Recommended Aligned Advanced Academic Courses

AP	AP Biology AP Chemistry AP Calculus	AP English AP History
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studied, English, World Languages, and Fine Arts. Check with your campus for availability.	

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Intern with a medical assistant at a community clinic, hospital, assisted living, or long-term care facility Participate in job shadowing experiences such as Emergency Medical Services (EMS) ride along or hospital/clinical job
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in HOSA-Future Health Professionals or SkillsUSA Participate in Advanced Medical Ambulance Bus (AMBUS) event or Community Emergency Response Team (CERT) event

NISD Aligned Industry-Based Certification (IBC)

NISD Performance Acknowledgment

- Basic Life Support (BLS) Healthcare Provider
- Sterile Processing & Distribution Technician (CSPD)



Example Postsecondary Opportunities

Apprenticeships

- Medical Assistant

Associate Degrees

- Emergency Medical Technology
- Radiologic Technology/Science

Bachelor's Degrees

- Emergency Medical Technology
- Medical Insurance Coding

Master's, Doctoral, and Professional Degrees

- Medicine
- Occupational Therapy

Additional Stackable IBCs/License

- Registered Diagnostic Medical Sonographer

Example Aligned Occupations

Medical Assistants

Median Wage: \$36,834
Annual Openings: 11,638
10-Year Growth: 29%

Dental Hygienists

Median Wage: \$79,663
Annual Openings: 1,352
10-Year Growth: 32%

Physician Assistants

Median Wage: \$127,332
Annual Openings: 974
10-Year Growth: 41%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Successful completion of the Diagnostic and Therapeutic Services program of study will fulfill requirements of the Public Services endorsement.



Statewide Program of Study: *Biomedical Science*

The Biomedical Science program of study focuses on occupational and educational opportunities associated with the study of biology and medicine. This program of study includes researching and diagnosing diseases, pre-existing conditions, and other determinants of health. Students will also practice patient care and communication.

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. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.



Secondary Courses for High School Credit

Level 1	• 8717 Principles of Biosciences M
Level 2	• 8719 Biotechnology I M
Level 3	• Medical Microbiology • Biotechnology II
Level 4	• Practicum in Science, Technology, Engineering, and Mathematics- Bioscience M

Recommended Aligned Advanced Academic Courses

AP	AP Biology AP Chemistry
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> • Intern with a biological or medical scientist at a healthcare organization or health research company to learn scientific testing methods • Shadow a clinical laboratory technician to observe laboratory testing processes
Expanded Learning Opportunities	<ul style="list-style-type: none"> • Participate in Health Occupations Students of America (HOSA)

NISD Aligned Industry-Based Certifications

TEA A-F Recognized IBC

- Biotechnician Assistant Credentialing Exam (BACE)



Example Postsecondary Opportunities

Apprenticeships

- Medical Laboratory Technician



Associate Degrees

- Biotechnology
- Biological Sciences

Bachelor's Degrees

- Biology
- Cellular and Molecular Biology

Master's, Doctoral, and Professional Degrees

- Forensic Science and Technology
- Biomedical Sciences

Additional Stackable IBCs/License

- Cytotechnologist

Example Aligned Occupations



Medical Equipment Preparers

Median Wage: \$38,827
Annual Openings: 519
10-Year Growth: 18%

Forensic Science Technicians

Median Wage: \$56,971
Annual Openings: 249
10-Year Growth: 22%

Biological Technicians

Median Wage: \$45,787
Annual Openings: 879
10-Year Growth: 14%



Successful completion of the Biomedical program of study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Public Services endorsement.

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>

Statewide Program of Study: Engineering Foundations

The Engineering Foundations program of study focuses on occupational and educational opportunities associated with a wide range of skills applied in the Engineering industry. Students will design, test, and evaluate projects related to engines, machines, and structures. This program of study includes applying scientific, mathematical, and empirical evidence to solve problems through innovation, design, construction, operation, and maintenance of different engineering systems.

Engineering Career Cluster

The Engineering career cluster focuses on planning, designing, testing, building, and maintaining of machines, structures, materials, systems, and processes using empirical evidence and science, technology, and math principles. This career cluster includes occupations ranging from mechanical engineer and drafter to electrical engineer and to mapping technician.



Secondary Courses for High School Credit

Level 1	• 8703 Principles of Applied Engineering M
Level 2	• 8722 Manufacturing Engineering Technology I M
Level 3	• 8708 Engineering Design and Presentation I M
Level 4	• 8732 Engineering Design and Presentation II M (2CR) • 8716 Practicum in Science, Technology, Engineering, and Mathematics-Engineering Science M (2CR)

Recommended Aligned Advanced Academic Courses

AP	AP Calculus AB AP Computer Science A AP Physics 1 AP Physics 2 AP Statistics
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> • Intern at an engineering, robotics, or aerospace company. • Visit an engineering firm and shadow multiple types of engineers.
Expanded Learning Opportunities	<ul style="list-style-type: none"> • Participate in SkillsUSA or TSA • Join a local engineering association and attend meetings.

NISD Aligned Industry-Based Certifications

NISD Performance Acknowledgement

- SOLIDWORKS Additive Manufacturing

TEA A-F Recognized IBC

- Autodesk Associate (Certified User) AutoCAD
- Certified SOLIDWORKS Associate (CSWA) – Academic



Example Postsecondary Opportunities

Apprenticeships

- Industrial Engineering Technician Apprenticeship



Associate Degrees

- Manufacturing Engineering Technology/Technician
- Robotics Technology/Technician

Bachelor's Degrees

- Electrical and Electronics Engineering
- Engineering, General

Master's, Doctoral, and Professional Degrees

- Electrical and Electronics Engineering
- Engineering, General

Additional Stackable IBCs/Licensures

- Professional Engineer (PE License)
- Engineer in Training Certification (EIT)

Example Aligned Occupations



Civil Engineering Technologists and Technicians

Median Wage: \$61,138
Annual Openings: 765
10-Year Growth: 11%

Aerospace Engineers

Median Wage: \$115,694
Annual Openings: 483
10-Year Growth: 18%

Mechanical Engineers

Median Wage: \$99,937
Annual Openings: 1,755
10-Year Growth: 19%



Successful completion of the Engineering Foundations program of study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Business and Industry endorsement.

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>

Statewide Program of Study: Programming and Software Development

The Programming and Software Development program of study focuses on occupational and educational opportunities associated with researching, designing, developing, testing, and 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 includes creating, modifying, and testing the codes, forms, and script that allow computer applications to run.

Information Technology Career Cluster

The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.

Secondary Courses for High School Credit

Level 1	<ul style="list-style-type: none"> 7104 AP Computer Science Principles M 7320 OnRamps Computer Science
Level 2	<ul style="list-style-type: none"> **** Game Programming and Design M
Level 3	<ul style="list-style-type: none"> 7215 & 5971 AP Computer Science A 1 M
Level 4	<ul style="list-style-type: none"> **** Practicum in Science, Technology, Engineering, and Mathematics- Programming M (2CR)

Recommended Aligned Advanced Academic Courses

AP	AP Calculus AB AP Statistics
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Intern at a local IT company to develop skills in programming and coding Shadow a software developer to learn how they create and improve software to support efficient processes at their company
Expanded Learning Opportunities	<ul style="list-style-type: none"> Program and create a game Participate in SkillsUSA or TSA

NISD Aligned Industry-Based Certifications

TEA A-F Recognized IBC

- Information Technology Specialist: Java
- Information Technology Specialist: JavaScript
- CodeHS Python Level 1 Certification



Example Postsecondary Opportunities

Apprenticeships

- Computer Programmer Apprenticeship

Associate Degrees

- Computer Programming
- Web Page, Digital/Multimedia and Information Resources Design

Bachelor's Degrees

- Data Science
- Computer Engineering

Master's, Doctoral, and Professional Degrees

- Management Science
- Computer Software Engineering

Additional Stackable IBCs/License

- AWS Certified Developer Associate

Example Aligned Occupations

Computer User Support Specialists

Median Wage: \$51,411
Annual Openings: 5,757
10-Year Growth: 21%

Software Developers

Median Wage: \$111,705
Annual Openings: 15,324
10-Year Growth: 36%

Computer Programmers

Median Wage: \$87,997
Annual Openings: 1,176
10-Year Growth: 4%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:
<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Successful completion of the Programming and Software Development program of study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Business and Industry endorsement.

Statewide Program of Study: Engineering Foundations- Robotics

The Engineering Foundations program of study focuses on occupational and educational opportunities associated with a wide range of skills applied in the Engineering industry. Students will design, test, and evaluate projects related to engines, machines, and structures. This program of study includes applying scientific, mathematical, and empirical evidence to solve problems through innovation, design, construction, operation, and maintenance of different engineering systems.

Engineering Career Cluster

The Engineering career cluster focuses on planning, designing, testing, building, and maintaining of machines, structures, materials, systems, and processes using empirical evidence and science, technology, and math principles. This career cluster includes occupations ranging from mechanical engineer and drafter to electrical engineer and to mapping technician.



Secondary Courses for High School Credit

Level 1	• 8703 Principles of Applied Engineering M
Level 2	• 8722 Manufacturing Engineering Technology I M
Level 3	• 8733 Robotics I M
Level 4	• 8734 Robotics II M • **** Practicum in Science, Technology, Engineering, and Mathematics-Robotics M (2CR)

Recommended Aligned Advanced Academic Courses

AP	AP Calculus AB AP Computer Science A AP Physics 1 AP Physics 2 AP Statistics
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> • Intern at an engineering, robotics, or aerospace company. • Visit an engineering firm and shadow multiple types of engineers.
Expanded Learning Opportunities	<ul style="list-style-type: none"> • Participate in SkillsUSA or TSA • Join a local engineering association and attend meetings.

NISD Aligned Industry-Based Certifications

NISD Performance Acknowledgement

- SOLIDWORKS Additive Manufacturing

TEA A-F Recognized IBC

- Autodesk Associate (Certified User) AutoCAD
- Certified SOLIDWORKS Associate (CSWA) – Academic



Example Postsecondary Opportunities

Apprenticeships

- Industrial Engineering Technician Apprenticeship



Associate Degrees

- Manufacturing Engineering Technology/Technician
- Robotics Technology/Technician

Bachelor's Degrees

- Electrical and Electronics Engineering
- Engineering, General

Master's, Doctoral, and Professional Degrees

- Electrical and Electronics Engineering
- Engineering, General

Additional Stackable IBCs/Licensures

- Professional Engineer (PE License)
- Engineer in Training Certification (EIT)

Example Aligned Occupations



Civil Engineering Technologists and Technicians

Median Wage: \$61,138
Annual Openings: 765
10-Year Growth: 11%

Industrial Engineers

Median Wage: \$100,000
Annual Openings: 1,898
10-Year Growth: 26%

Mechanical Engineers

Median Wage: \$99,937
Annual Openings: 1,755
10-Year Growth: 19%



Successful completion of the Engineering Foundations program of study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Business and Industry endorsement.

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>

Statewide Program of Study: *LMS Diagnostic and Therapeutic Services*



The Diagnostic and Therapeutic Services program of study focuses on occupational and educational opportunities associated with diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study includes exploration of patient treatment and rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

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. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.



EMT

Secondary Courses for High School Credit

Level 1	<ul style="list-style-type: none"> 8533-Principles of Health Science
Level 2	<ul style="list-style-type: none"> 8358-Medical Terminology 8399-Medical Terminology D
Level 3	<ul style="list-style-type: none"> 8664-Health Science Theory - EMT 8377-Anatomy and Physiology M 8379-Anatomy and Physiology H 8376-Anatomy and Physiology D
Level 4	<ul style="list-style-type: none"> 8563-Emergency Medical Technician-Basic (2CR)

Recommended Aligned Advanced Academic Courses

AP	<ul style="list-style-type: none"> AP Biology AP Chemistry
Dual Credit	<p>Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.</p>

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Intern with a medical assistant at a community clinic, hospital, assisted living, or long-term care facility Participate in job shadowing experiences such as Emergency Medical Services (EMS) ride along or hospital/clinical job
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in HOSA-Future Health Professionals or SkillsUSA Participate in Advanced Medical Ambulance Bus (AMBUS) event or Community Emergency Response Team (CERT) event

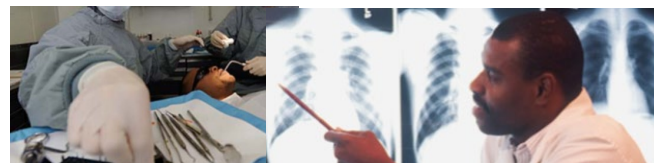
NISD Aligned Industry-Based Certifications (IBC)

TEA A-F Recognized IBC

- Emergency Medical Technician–Basic

NISD Performance Acknowledgement

- Basic Life Support (BLS)



Example Postsecondary Opportunities

Apprenticeships

- Medical Assistant

Associate Degrees

- Emergency Medical Technology
- Radiologic Technology/Science

Bachelor's Degrees

- Emergency Medical Technology
- Medical Insurance Coding

Master's, Doctoral, and Professional Degrees

- Medicine
- Occupational Therapy

Additional Stackable IBCs/License

- Registered Diagnostic Medical Sonographer



Example Aligned Occupations

Medical Assistants

Median Wage: \$36,834
Annual Openings: 11,638
10-Year Growth: 29%

Dental Hygienists

Median Wage: \$79,663
Annual Openings: 1,352
10-Year Growth: 32%

Physician Assistants

Median Wage: \$127,332
Annual Openings: 974
10-Year Growth: 41%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:
<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Successful completion of the Diagnostic and Therapeutic Services program of study will fulfill requirements of the Public Services endorsement.



Statewide Program of Study: LMS Diagnostic and Therapeutic Services

The Diagnostic and Therapeutic Services program of study focuses on occupational and educational opportunities associated with diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study includes exploration of patient treatment and rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

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. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.



Secondary Courses for High School Credit

Level 1	<ul style="list-style-type: none"> 8533-Principles of Health Science
Level 2	<ul style="list-style-type: none"> 8358-Medical Terminology 8399-Medical Terminology D
Level 3	<ul style="list-style-type: none"> 8377-Anatomy and Physiology M 8379-Anatomy and Physiology H 8376-Anatomy and Physiology D 8330-Health Science Theory-Medical Assistant 8332-Health Science Theory-Pharmacy Technician
Level 4	<ul style="list-style-type: none"> 8331-Practicum in Health Science: Medical Assistant (2CR) 8333-Practicum in Health Science: Pharmacy Technician (2CR)

Recommended Aligned Advanced Academic Courses

AP	AP Biology	AP Chemistry
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.	

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Intern with a medical assistant at a community clinic, hospital, assisted living, or long-term care facility Participate in job shadowing experiences such as Emergency Medical Services (EMS) ride along or hospital/clinical job
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in HOSA-Future Health Professionals or SkillsUSA Participate in Advanced Medical Ambulance Bus (AMBUS) event or Community Emergency Response Team (CERT) event

NISD Aligned Industry-Based Certifications

TEA A-F Recognized IBC

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

Performance Acknowledgement

- Basic Life Support Health Care Provider (BLS)



Example Postsecondary Opportunities

Apprenticeships

- Medical Assistant

Associate Degrees

- Emergency Medical Technology
- Radiologic Technology/Science

Bachelor's Degrees

- Emergency Medical Technology
- Medical Insurance Coding

Master's, Doctoral, and Professional Degrees

- Medicine
- Occupational Therapy

Additional Stackable IBCs/License

- Registered Diagnostic Medical Sonographer



Example Aligned Occupations

Medical Assistants

Median Wage: \$36,834
Annual Openings: 11,638
10-Year Growth: 29%

Dental Hygienists

Median Wage: \$79,663
Annual Openings: 1,352
10-Year Growth: 32%

Physician Assistants

Median Wage: \$127,332
Annual Openings: 974
10-Year Growth: 41%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:
<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Successful completion of the Diagnostic and Therapeutic Services program of study will fulfill requirements of the Public Services endorsement.



Statewide Program of Study: *Exercise Science, Wellness, and Restoration*

The Exercise Science, Wellness, and Restoration program of study focuses on occupational and educational opportunities associated with assisting patients with maintaining physical, mental, and emotional health. This program of study includes researching diet and exercise needed to maintain a healthy, balanced lifestyle and exploring techniques to help patients recover from injury, illness, or disease.

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. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.



Secondary Courses for High School Credit

Level 1	<ul style="list-style-type: none"> 8533-Principles of Health Science M
Level 2	<ul style="list-style-type: none"> 8349-Physical Therapy I M 8349ADV-Adv Physical Therapy I M (2028 Graduates ONLY)
Level 3	<ul style="list-style-type: none"> 8366-Health Science Theory-Physical Therapy M 8376-Anatomy & Physiology M 8377-Anatomy & Physiology D 8379-Anatomy & Physiology H
Level 4	<ul style="list-style-type: none"> 8364-Practicum in Health Science-Physical Therapy M (2CR) 8011-Career Preparation for Programs of Study + Extended Career Preparation (3CR)

Recommended Aligned Advanced Academic Courses

AP	AP Biology
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Participate in an internship with a physical therapist, occupational therapist, or speech therapist Shadow an athletic trainer from a local sports team
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in the Texas State Athletic Trainers Association Participate in HOSA or SkillsUSA Volunteer at a hospital or rehabilitation center

NISD Aligned Industry-Based Certifications (IBC)

NISD Performance Acknowledgement

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



Example Postsecondary Opportunities

Apprenticeships

- Medical Assistant



Associate Degrees

- Associate of Applied Science

Bachelor's Degrees

- Nutrition Sciences
- Exercise Physiology and Kinesiology

Master's, Doctoral, and Professional Degrees

- Exercise Science and Kinesiology
- Physical Therapy

Additional Stackable IBCs/License

- Physical Therapy Technician/Aide Certification



Example Aligned Occupations

Exercise Trainers and Group Fitness Instructors

Median Wage: \$44,916
Annual Openings: 5,022
10-Year Growth: 41%

Physical Therapist Assistants

Median Wage: \$74,866
Annual Openings: 1,218
10-Year Growth: 44%

Athletic Trainers

Median Wage: \$54,447
Annual Openings: 295
10-Year Growth: 13%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:
<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Statewide Program of Study: Government and Public Administration

The Government and Public Administration program of study focuses on occupational and educational opportunities associated with examining, evaluating, and investigating compliance with laws and regulations. This program of study includes planning and governance, analysis of revenue and taxation, and processes for communicating with the public.

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. This career cluster includes occupations ranging from police officer and firefighter to political scientist and lawyer.



Secondary Courses for High School Credit

- Level 1
 - 8570- Principles of Law, Public Safety, Corrections, and Security M
 - 8571- Principles of Law, Public Safety, Corrections, and Security D
- Level 2
 - 8581- Political Science I M
- Level 3
 - 8583- Planning and Governance M
 - 8588- Dimensions of Diplomacy M
- Level 4
 - 8587- Practicum in Local, State, and Federal Government M (2CR)

Recommended Aligned Advanced Academic Courses

AP	AP U.S. Government and Politics
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.

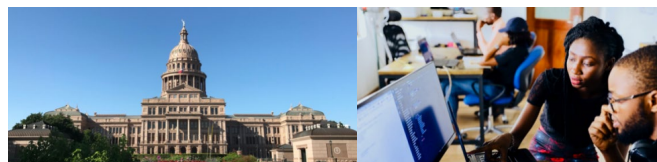
Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Shadow a legislator to learn about government roles and responsibilities Intern at an economic development organization to learn about workforce planning and supporting local businesses
Expanded Learning Opportunities	<ul style="list-style-type: none"> Tour various departments at city hall Participate in Youth and Government Participate in Mock Trial

NISD Aligned Industry-Based Certifications (IBC)

TEA A-F Recognized IBC

- Administrative Assisting (Nocti)



Example Postsecondary Opportunities

Associate Degrees

- Political Science
- Public Administration

Bachelor's Degrees

- Political Science
- Public Administration

Master's, Doctoral, and Professional Degrees

- Political Science
- Public Administration and Management

Additional Stackable IBCs/License

- Graduate Certificate in Strategic Studies
- Graduate Certificate in Teaching Political Science



Example Aligned Occupations

Political Scientists

Median Wage: \$98,883
 Annual Openings: 67
 10-Year Growth: 28%

Economists

Median Wage: \$104,653
 Annual Openings: 93
 10-Year Growth: 36%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:
<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Successful completion of the Government and Public Administration program of study will fulfill requirements of the Public Services endorsement.

Statewide Program of Study: Law Enforcement



The Law Enforcement program of study focuses on occupational and educational opportunities associated with the development and enforcement of laws by various branches of law enforcement. This program of study includes the history, organization, and functions of local, state, and federal law enforcement. Students will understand the role of constitutional law at local, state, and federal levels; the U.S. legal system; criminal law; and law enforcement terminology and the classification and elements of crime.

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. This career cluster includes occupations ranging from police officer and firefighter to political scientist and lawyer.



Secondary Courses for High School Credit

Level 1	<ul style="list-style-type: none"> 8570-Principles of Law, Public Safety, Corrections, and Security M 8570-Principles of Law, Public Safety, Corrections, and Security D
Level 2	<ul style="list-style-type: none"> 8573-Law Enforcement I M
Level 3	<ul style="list-style-type: none"> 8574-Law Enforcement II M AND 8553-Forensic Science 8576-Criminal Investigation M
Level 4	<ul style="list-style-type: none"> 8598-Practicum in Law, Public Safety, Corrections, and Security – Law Enforcement (2CR)

Recommended Aligned Advanced Academic Courses

Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.
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Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Shadow a detective to learn about investigations and the role of detectives in law enforcement Intern in dispatch at a local law enforcement agency to learn about first responder roles and processes
Expanded Learning Opportunities	<ul style="list-style-type: none"> Visit a police department Participate in TSA or SkillsUSA

NISD Aligned Industry-Based Certifications

TEA A-F Recognized IBC

- Non-Commissioned Security Officer Level II License



Example Postsecondary Opportunities

- Apprenticeships**
- Security Specialist

- Associate Degrees**
- Criminal Justice
 - Law Enforcement

- Bachelor's Degrees**
- Forensic Science
 - Criminal Justice

- Master's, Doctoral, and Professional Degrees**
- Criminal Justice
 - Criminology and Criminal Justice

- Additional Stackable IBCs/Licensures**
- Jailer – Basic County Corrections
 - Basic Telecommunicator

Example Aligned Occupations

Police and Sheriff's Patrol Officers

Median Wage: \$64,373
Annual Openings: 5,424
10-Year Growth: 13%

Detectives and Criminal Investigators

Median Wage: \$82,090
Annual Openings: 1,536
10-Year Growth: 8%

First-Line Supervisors of Police and Detectives

Median Wage: \$97,571
Annual Openings: 5,461
10-Year Growth: 12%



Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:
<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Statewide Program of Study: Legal Studies

The Legal Studies program of study focuses on topics such as legal research, legal writing, rules of procedure, case management, law office technology, and legal ethics. Areas of the legal system studied include aspects of family law, criminal law, and contract law.

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. This career cluster includes occupations ranging from police officer and firefighter to political scientist and lawyer.



Secondary Courses for High School Credit

- Level 1**
 - 8750-Principles of Law, Public Safety, Corrections, and Security M
 - 8571-Principles of Law, Public Safety, Corrections, and Security D
- Level 2**
 - 8572-Court Systems and Practices M
 - 8558-Court Systems and Practices D
- Level 3**
 - 8575-Legal Research and Writing M
 - 8553-Forensic Science
- Level 4**
 - 8599-Practicum in Law, Public Safety, Corrections, and Security M (2CR)

Recommended Aligned Advanced Academic Courses

Dual Credit

Various academic Dual Credit offered in Math, Science, Social Studied, English, World Languages, and Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Shadow a clerk in a courthouse to learn about civil litigation
- Intern at a law firm, working alongside a paralegal to produce and organize legal documents
- Work part-time as an administrative assistant at a local non-profit that provides legal aid

Expanded Learning Opportunities

- Participate in Mock Trial

NISD Aligned Industry-Based Certifications (IBC)



Example Postsecondary Opportunities

Apprenticeships

- Law Apprenticeship

Associate Degrees

- Paralegal Studies
- Court Reporting and Captioning

Bachelor's Degrees

- Legal Research
- Legal Studies

Master's, Doctoral, and Professional Degrees

- Juris Doctorate
- International and Comparative Law

Additional Stackable IBCs/Licensures

- Paralegal



Example Aligned Occupations

Court Reporters

Median Wage: \$51,177
 Annual Openings: 174
 10-Year Growth: 11%

Paralegals and Legal Assistants

Median Wage: \$56,310
 Annual Openings: 4,046
 10-Year Growth: 23%

Lawyers

Median Wage: \$134,158
 Annual Openings: 3,915
 10-Year Growth: 19%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>

Statewide Program of Study: *Nursing Science*



The Nursing Science program of study focuses on occupational and educational opportunities associated with patient care. This program of study includes the practice of caring for patients, performing routine procedures such as monitoring vital signs, developing, and implementing care plans, maintaining medical records, and managing disease or pain.

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. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.



Secondary Courses for High School Credit

Level 1	• 8533-Principles of Health Science M
Level 2	• 8564-Principles of Nursing Science M
Level 3	• 8565-Science of Nursing M AND • 8377-Anatomy and Physiology M • 8379-Anatomy and Physiology H • 8376-Anatomy and Physiology D
Level 4	• 8566-Practicum in Health Science Nursing - CNA M (2CR)

Recommended Aligned Advanced Academic Courses

AP or IB	AP Biology AP Chemistry
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> • Intern with a medical assistant at a community clinic, hospital, or assisted living facility • Conduct informational interviews with nurses in different departments and healthcare settings
Expanded Learning Opportunities	<ul style="list-style-type: none"> • Volunteer at community clinics, hospitals, assisted living and long-term care facilities • Participate in HOSA or SkillsUSA

NISD Aligned Industry-Based Certifications

TEA A-F Recognized IBC

- Certified Nurse Aide (CNA)
- Phlebotomy Technician (CPT)

NISD Performance Acknowledgement

- Basic Life Support (BLS) Healthcare Provider



Example Postsecondary Opportunities

Apprenticeships

- Registered Nurse Resident

Associate Degrees

- Medical Assisting
- Vocational Nursing

Bachelor's Degrees

- Registered Nursing
- Nursing Administration

Master's, Doctoral, and Professional Degrees

- Nursing Administration
- Nursing Science

Additional Stackable IBCs/License

- Certified Emergency Nurse



Example Aligned Occupations



Nursing Assistants

Median Wage: \$30,856
Annual Openings: 10,936
10-Year Growth: 15%

Licensed Practical and Licensed Vocational Nurses

Median Wage: \$50,913
Annual Openings: 6,865
10-Year Growth: 17%

Registered Nurses

Median Wage: \$79,831
Annual Openings: 16,207
10-Year Growth: 17%

Nursing Science



Successful completion of the Nursing Science program of study will fulfill requirements of STEM endorsement if the math and science requirements are met or the Public Services endorsement.

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>

Statewide Program of Study: Cybersecurity



The Cybersecurity program of study focuses on occupational and educational opportunities associated with planning, implementing, upgrading, or monitoring security measures for the protection of computer networks and information. This program of study includes responding to computer security breaches and viruses and administering network security measures.

Information Technology Career Cluster

The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.



Secondary Courses for High School Credit

- | | |
|---------|---|
| Level 1 | <ul style="list-style-type: none"> 7104 AP Computer Science Principles M AND 8203 Principles of Business, Marketing & Finance M (Elective Only) |
| Level 2 | <ul style="list-style-type: none"> 8544 Cyber Internetworking Technologies I M 8595 Cyber Internetworking Technologies I D M |
| Level 3 | <ul style="list-style-type: none"> 8548 Cyber Internetworking Technologies II M 8596 Cyber Internetworking Technologies II D M |
| Level 4 | <ul style="list-style-type: none"> 8549 Practicum in Information Technology Cyber- VEI M (2CR) 8725 Practicum in Information Technology Cyber M (2CR) 8597 Practicum in Information Technology Cyber D M (2CR) |

Recommended Aligned Advanced Academic Courses

AP	AP Computer Science Principles AP Computer Science A
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Intern at a local bank, hospital, or government office to develop skills in implementing security measures Interview with an information security analyst to learn how they plan for, monitor, and upgrade security measures at their organization
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in a Hackathon Participate in TSA or SkillsUSA

NISD Aligned Industry-Based Certifications

TEA A-F Recognized IBC

- CompTIA IT Fundamentals+
- CompTIA Network+
- CompTIA Security+

NISD Performance Acknowledgement

- CompTIA PenTest



Successful completion of the Cybersecurity program of study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Business and Industry endorsement.



Examples Postsecondary Opportunities

Associate Degrees

- Computer and Information Systems Security
- Computer Programming

Bachelor's Degrees

- Computer Science
- Computer Software Engineering

Master's, Doctoral, and Professional Degrees

- Computer and Information Systems Security/Auditing/Information Assurance
- Computer Software Engineering

Additional Stackable IBCs/License

- Certified Ethical Hacker (CEH)



Example Aligned Occupations

Computer User Support Specialists

Median Wage: \$51,411
Annual Openings: 5,757
10-Year Growth: 21%

Software Developers

Median Wage: \$111,705
Annual Openings: 15,324
10-Year Growth: 36%

Information Security Analysts

Median Wage: \$110,268
Annual Openings: 1,719
10-Year Growth: 49%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>

Statewide Program of Study: *Entrepreneurship*



The Entrepreneurship program of study focuses on occupational and educational opportunities associated with planning, launching, directing, and coordinating public or private sector ventures. This program of study includes formulating policies, launching businesses or organizations, managing daily operations, analyzing management structures, and planning for the use of materials and human resources.

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. This career cluster includes occupations ranging from business owner and entrepreneur, to accountant, retail manager, and market analyst.



Secondary Courses for High School Credit

- | | |
|---------|--|
| Level 1 | <ul style="list-style-type: none"> 8203 Principles of Business, Marketing, and Finance M AND 8502 Principles of Information Technology M (Elective Only) |
| Level 2 | <ul style="list-style-type: none"> 8653 Entrepreneurship I M 8643 Entrepreneurship I D M |
| Level 3 | <ul style="list-style-type: none"> 8673 Entrepreneurship II M 8674 Entrepreneurship II D M |
| Level 4 | <ul style="list-style-type: none"> 8658 Practicum in Entrepreneurship-VEI M 8675 Practicum in Entrepreneurship-VEI D M |

Recommended Aligned Advanced Academic Courses

AP	AP Statistics IB Mathematics: Analysis and Approaches
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.

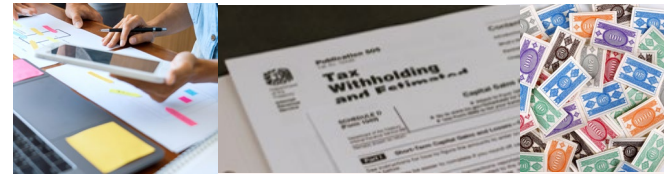
Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Intern at a local start-up or a business incubator Participate in the development and launch of a school-based enterprise
Expanded Learning Opportunities	<ul style="list-style-type: none"> Job shadow an entrepreneur Participate in BPA, DECA, FBLA, or related UIL events

NISD Aligned Industry-Based Certifications

TEA A-F Recognized IBC

- Entrepreneurship and Small Business



Example Postsecondary Opportunities

Associate Degrees

- Operations Management and Supervision
- Organizational Leadership



Bachelor's Degrees

- Business Administration and Management
- Public Administration

Master's, Doctoral, and Professional Degrees

- Business Administration
- Public Administration

Additional Stackable IBCs/License

- Salesforce
- Service Contract Providers



Example Aligned Occupations

General and Operations Managers

Median Wage: \$83,220
Annual Openings: 25,450
10-Year Growth: 23%

Management Analysts

Median Wage: \$93,983
Annual Openings: 6,030
10-Year Growth: 25%

Chief Executives

Median Wage: \$163,567
Annual Openings: 648
10-Year Growth: 3%



Successful completion of the Entrepreneurship program of study will fulfill requirements of the Business and Industry endorsement.

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>

Statewide Program of Study: Programming and Software Development



The Programming and Software Development program of study focuses on occupational and educational opportunities associated with researching, designing, developing, testing, and 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 includes creating, modifying, and testing the codes, forms, and script that allow computer applications to run.

Information Technology Career Cluster

The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.



Secondary Courses for High School Credit

- | | |
|---------|--|
| Level 1 | <ul style="list-style-type: none"> 7104 AP Computer Science Principles M AND 8203 Principles of Business, Marketing & Finance M (Elective Only) |
| Level 2 | <ul style="list-style-type: none"> 7110 Advanced Computer Science I 5969 Advanced Computer Science 1 D |
| Level 3 | <ul style="list-style-type: none"> 7212 Computer Science II H M 7213 Computer Science II D M <p>OR</p> <ul style="list-style-type: none"> 7215/5971 AP Computer Science A 1 M 7216/5971 AP Computer Science A 1 D M |
| Level 4 | <ul style="list-style-type: none"> 8594 Practicum in Information Technology- VEI (2CR) <p>OR</p> <ul style="list-style-type: none"> 8726 Practicum in Information Technology- CS/Prog. (2CR) 8736 Practicum in Information Technology- CS/Prog. D (2CR) |

Recommended Aligned Advanced Academic Courses

AP	AP Calculus AB AP Statistics
Dual Credit	Various academic Dual Credit offered in Math, Science, Social Studies, English, World Languages, and Fine Arts. Check with your campus for availability.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Intern at a local IT company to develop skills in programming and coding Shadow a software developer to learn how they create and improve software to support efficient processes at their company
Expanded Learning Opportunities	<ul style="list-style-type: none"> Program and create a game Participate in SkillsUSA or TSA

NISD Aligned Industry-Based Certifications

TEA A-F Recognized IBC

- C++ Certified Associate Programmer
- Certified Entry-Level Python Programmer (PCEP)
- Information Technology Specialist: Java
- Information Technology Specialist: JavaScript



Example Postsecondary Opportunities

Apprenticeships

- Computer Programmer Apprenticeship



Associate Degrees

- Computer Programming
- Web Page, Digital/Multimedia and Information Resources Design

Bachelor's Degrees

- Data Science
- Computer Engineering

Master's, Doctoral, and Professional Degrees

- Management Science
- Computer Software Engineering

Additional Stackable IBCs/License

- AWS Certified Developer Associate



Example Aligned Occupations

Computer User Support Specialists

Median Wage: \$51,411
Annual Openings: 5,757
10-Year Growth: 21%

Software Developers

Median Wage: \$111,705
Annual Openings: 15,324
10-Year Growth: 36%

Computer Programmers

Median Wage: \$87,997
Annual Openings: 1,176
10-Year Growth: 4%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:
<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>