

LEADING TO A BRIGHT FUTURE



HIGH SCHOOL **PROGRAMS OF STUDY**



Leander ISD offers Program of Study opportunities in all five (5) state recognized Endorsement areas. The State recognized endorsement areas are: Science, Technology, Engineering and Mathematics (STEM); Business and Industry; Public Service; Arts and Humanities; and Multi-Disciplinary.

An important goal of the Program of Study is for our graduates to be set apart from other students from across the state. A Program of Study certificate is awarded upon graduation. More than 60 Programs of Study are currently available in the five (5) Endorsement areas. Courses chosen during high school become the foundation for the future; therefore, careful selection of courses will form a Program of Study related to a chosen post-secondary educational goal.

Leander ISD offers a variety of programs at all high school campuses. Due to the characteristics and facility requirements of specialized programs, not all programs are offered on each campus. All programs at the high school level are offered in the campus course catalog. Students from all campuses are encouraged to enroll in specialized programs at another campus if the program meets their postsecondary education plans or career choice.

Refer to course catalog for course sequence options, course descriptions and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options.

It is the policy of Leander ISD not to discriminate on the basis of race, color, national origin, sex or handicap in its Career and Technology Education Programs, services, or activities. Leander ISD will take steps to assure that lack of English language skills will not be a barrier to admission and participation in all educational and vocational programs.

Es norma de Leander ISD de no discriminar por motivos de raza, color, origen nacional, sexo o impedimento, en sus programas, servicios o actividades vocacionales. Leander ISD tomará las medidas necesarias para asegurar que la falta de habilidad en el uso de la lengua inglés no sea un obstáculo para la admisión o participación en todos los programas educativos y vocacionales.

HOW TO USE THE PROGRAM OF STUDY:

- 1) Select a Program of Study based on the career field in which you are interested. This guide provides an outline of recommended course sequences and industry-based certifications where appropriate. Refer to the course catalog for more details on available college credit, corresponding extracurricular student-leadership opportunities, post-secondary majors, and careers.
- 2) The number of credits needed to earn a Program of Study certificate refers to credits earned by passing identified courses; this number varies by Program of Study. Refer to course catalog for details.
- 3) For more information on specific Career and Technical Education Programs of Study, visit <http://www.leanderisd.org/cte>.
- 4) Talk with campus Counseling Services and College and Career Transition Coordinators for support and guidance.

HIGH SCHOOL PROGRAMS OF STUDY



AGRICULTURE, FOOD, & NATURAL RESOURCES

*Animal Science
Applied Agricultural Engineering
Environmental & Natural Resources
Plant Science*



ARCHITECTURE & CONSTRUCTION

*Architectural Design: Architecture
Architectural Design: Interior Design
Construction
Electrical*



ARTS, AUDIO/VIDEO TECHNOLOGY, & COMMUNICATIONS

*Design & Multimedia Arts: Animation
Design & Multimedia Arts: Fashion Design
Design & Multimedia Arts: Graphic Design
Digital Communications*



BUSINESS, MARKETING, & FINANCE

*Accounting & Financial Services
Business Management
Entrepreneurship
Marketing & Sales*



EDUCATION & TRAINING

Teaching & Training



ENGLISH ELECTIVES

*Advanced Journalism: News Media
Advanced Journalism: Yearbook
Debate
Oral Interpretation
Public Speaking*



ENGLISH



HEALTH SCIENCE

*Exercise Science and Wellness
Healthcare Therapeutics*



HOSPITALITY & TOURISM

*Culinary Arts
Lodging & Resort Management*



HUMAN SERVICES

*Cosmetology & Personal Care Services
Family & Community Services
Health & Wellness*



FINE ARTS: PERFORMING ARTS

*Band
Choir
Dance
Musical Theatre
Technical Theatre
Theatre
Theatre Productions*



FINE ARTS: VISUAL ARTS

*Ceramics
Drawing
Painting
Photography
Sculpture*



JUNIOR RESERVE OFFICERS' TRAINING CORPS

*JROTC: Air Force
JROTC: Navy*



LANGUAGES OTHER THAN ENGLISH

*American Sign Language
Chinese
French
Latin
Spanish*



LAW & PUBLIC SERVICE

Law Enforcement



MATH

Mathematics



SCIENCE

Science



SOCIAL STUDIES

Social Studies



STEM

*Biomedical Sciences (PLTW)
Cybersecurity
Engineering (PLTW)
Programming & Software Development:
App Development
Programming & Software Development:
Computer Science Studies*



TRANSPORTATION, DISTRIBUTION, & LOGISTICS

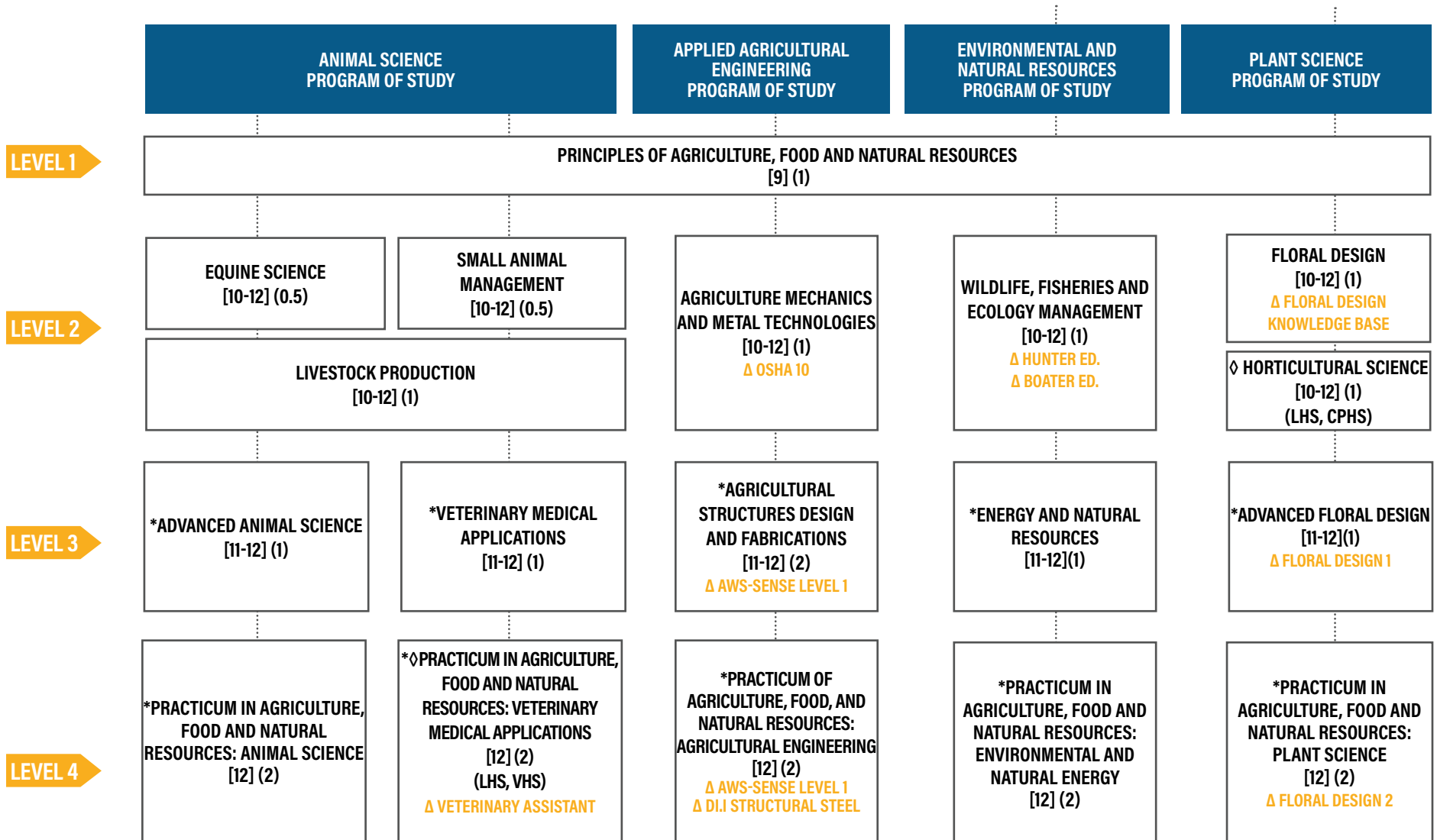
Automotive



AGRICULTURE, FOOD, AND NATURAL RESOURCES

Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE
 ▲ INDUSTRY-BASED CERTIFICATION
 [] GRADE LEVEL(S)
 () CREDITS
 ◇ SPECIALIZED PROGRAM



BUSINESS AND INDUSTRY

Note: Students who complete Applied Agricultural Engineering, Animal Science, or Plant Science Program of Study requirements are eligible to earn a STEM endorsement by also completing Algebra II, Chemistry, and Physics. Refer to course catalog for additional course sequence options, course descriptions, General Agricultural Program of Study option, and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options. Specialized programs located on specific high school campuses are open to all LISD students; check with your campus College and Career Transition Coordinator for details.

AGRICULTURE, FOOD, AND NATURAL RESOURCES

BUSINESS AND INDUSTRY

ANIMAL SCIENCE

PROGRAM OF STUDY

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

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES			
Certified Veterinary Assistant (CVA) - Level I (LHS and VHS)			
OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Animal Breeders	\$39,135	28	9%
Animal Scientists	\$57,533	22	12%
Medical Scientists	\$63,898	435	27%
Veterinarians	\$93,496	294	24%
Zoologists and Wildlife Biologists	\$67,309	45	32%
Veterinary Assistant	\$31,567		9%
Licensed Veterinary Technician	\$36,032		10%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Agriculture, Food and Natural Resources
- 2 LEVEL** Small Animal Management/Equine Science, Livestock Production
- 3 LEVEL** Veterinary Medical Applications
- 4 LEVEL** Advanced Animal Science, Practicum in Agriculture, Food, and Natural Resources; Veterinary Medical Applications (LHS, VHS)

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES	CAREER AND TECHNICAL STUDENT ORGANIZATIONS
Industry Guest Speakers; Field Trips; Agri-Science Fair; In-House Small Animal Clinical Services; Internships; Veterinary Clinical Internships for CVA (LHS and VHS).	FFA; National Technical Honor Society (NTHS)



The Agriculture, Food, and Natural Resources (AFNR) Career Cluster® focuses on the essential elements of life—food, water, land, and air. This Career Cluster® includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

Non-Discrimination Statement

It is the policy of Leander ISD not to discriminate on the basis of race, color, national origin, sex or handicap in its Career and Technology Education Programs, services, or activities. Leander ISD will take steps to assure that lack of English language skills will not be a barrier to admission and participation in all educational and vocational programs. Es norma de Leander ISD de no discriminar por motivos de raza, color, origen nacional, sexo o impedimento, en sus programas, servicios o actividades vocacionales. Leander ISD tomará las medidas necesarias para asegurar que la falta de habilidad en el uso de la lengua inglés no sea un obstáculo para la admisión o participación en todos los programas educativos y vocacionales.

ANIMAL SCIENCE

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Animal Science program of study are listed below.



4 CREDITS REQUIRED

Choose 2 credits from the following:

- Small Animal Management/Equine Science
- Livestock Production
- Advanced Animal Science
- Veterinary Medical Applications

Choose additional credits, if needed, from the following:

- Principles of Agriculture, Food and Natural Resources
- Practicum in Agriculture, Food and Natural Resources: Veterinary Medical Applications (LHS & VHS)
- Practicum in Agriculture, Food and Natural Resources: Animal Science
- Wildlife, Fisheries and Ecology Management
- Professional Communications or Entrepreneurship
- Career Preparation
- Project-Based Research

NOTE: Students who complete the Animal Science Program of Study requirements are eligible to earn a STEM endorsement by also completing Algebra II, Chemistry and Physics.

INDUSTRY-BASED CERTIFICATIONS OPPORTUNITIES-DESCRIPTIONS

Practicum in Agriculture, Food, and National Resources: Veterinary Medical Applications(LHS, VHS) is designed to facilitate the skills and internship hours that are required to obtain a Certified Veterinary Assistant (CVA) Level I through Texas Veterinary Medical Association. The certification preparation will educate veterinary assistants in the essential skills and knowledge needed to become effective contributors to a veterinary medical care team. Students are required to complete 300 hours and demonstrate knowledge and mastery of re°quired skills under the supervision of a veterinarian or Licensed Veterinary Technician, in addition to the 200 hours under the supervision of the classroom instructor. Practicum students will be responsible for seeking an internship location with guidance from the instructor for their CVA hours and skills application. Students that have the necessary hours and skills will be eligible to take the exam for Certified Veterinary Assistant (CVA) Level 1.

NOTES:

AGRICULTURE, FOOD, AND NATURAL RESOURCES

BUSINESS AND INDUSTRY

APPLIED AGRICULTURE ENGINEERING

PROGRAM OF STUDY

The Applied Agricultural Engineering program of study explores the occupations and educational opportunities associated with welding and fabrication, electrical, plumbing and concrete construction skills. Students can apply knowledge of safe working practices (OSHA) and engineering technology to agricultural problems concerned with power and machinery. This program of study will also cover AWS SENSE (welding) certifications.

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

Occupational Health and Safety Admin (OSHA) General Industry 10-Hour; American Welding Society (AWS) SENSE Welding Level I; American Welding Society (AWS) D1.1 Structural Steel.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Outdoor Power Equipment and Other Small Engine Mechanics	\$32,406	366	16%
Welders	\$41,350	6,171	9%
Farm Equipment Mechanics and Service Technicians	\$39,915	304	17%
Mobile Heavy Equipment Mechanics	\$47,299	1,627	16%
Agricultural Engineers	\$64,792	9	13%
Welders Cutters, Solderers, and Brazers	\$41,350	6,171	9%
Welding Soldering and Brazing Machine Setters, Operators and Tenders	\$40,040	280	9%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Agriculture, Food, and Natural Resources
- 2 LEVEL** Agriculture Mechanics and Metal Technologies
- 3 LEVEL** Agricultural Structures Design and Fabrications
- 4 LEVEL** Practicum of Agriculture, Food and Natural Resources: Applied Agricultural Engineering

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES

Agri-Science Fair; Ag Mechanics Shows; Industry Guest Speakers/ Demonstrations; Field Trips; Community Project Opportunities; Internships.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS

FFA; National Technical Honor Society (NTHS)



The Agriculture, Food, and Natural Resources (AFNR) Career Cluster® focuses on the essential elements of life—food, water, land, and air. This Career Cluster® includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

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APPLIED AGRICULTURE ENGINEERING

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Applied Agricultural Engineering program of study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Agriculture Mechanics and Metal Technologies
- Agricultural Structures Design and Fabrications

Choose additional credits from the following:

- Principles of Agriculture, Food and Natural Resources
- Practicum in Agriculture, Food and Natural Resources: Agricultural Engineering
- Principles of Construction (CPHS & GHS)
- Electrical Technology I (LHS)
- Architecture Design I (LHS)
- Introduction to Engineering Design
- Professional Communications or Entrepreneurship
- Career Preparation
- Project-Based Research

NOTE: Students who complete the Plant Science Program of Study requirements are eligible to earn a STEM endorsement by also completing Algebra II, Chemistry and Physics.

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

OSHA 10 General industry covers standards and regulations that OSHA has set in place to make sure all employees function in a safe work environment. Topics include: introduction to OSHA; Walking and Working Surfaces; Exit Routes, Emergency Action Plans, and Fire Prevention; Electrical; Personal Protective Equipment; Hazard Communication; Materials Handling; Machine Guarding; Bloodborne Pathogens.

The SENSE program requires students to successfully complete a series of written exams to gain the certificate. These written exams cover a wide range of welding theory from welding safety, welding process fundamentals, and welding inspection. In addition, students will complete practical welding assessments relating to the 4 welding processes for SMAW, GMAW, GTAW, and FCAW.

A student can also earn a welder performance qualification by demonstrating the ability to produce welds meeting the prescribed standards in accordance to AWS D1.1 Structural Steel welding code.

NOTES:

AGRICULTURE, FOOD, AND NATURAL RESOURCES

BUSINESS AND INDUSTRY

ENVIRONMENTAL AND NATURAL RESOURCES

PROGRAM OF STUDY

The Environmental and Natural Resources program of study explores the occupations and educational opportunities associated with the research, design, and planning of engineering or technical duties in the prevention and control of environmental hazards. This program of study may also include exploration into conducting research for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population.

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES	
Hunter Education (Texas Park and Wildlife); Boater Education (Texas Park and Wildlife)	

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Environmental Engineering Technicians	\$53,352	101	32%
Environmental Engineers	\$86,757	288	25%
Environmental Science and Protection Technicians, Including Health	\$40,268	508	17%
Environmental Scientists and Specialists, Including Health	\$77,896	644	24%
Zoologists and Wildlife Biologists	\$67,309	45	32%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Agriculture, Food, and Natural Resources
- 2 LEVEL** Wildlife, Fisheries and Ecology Management
- 3 LEVEL** Energy and Natural Resources
- 4 LEVEL** Practicum in Agriculture, Food, and Natural Resources: Environmental and Natural Energy

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES
Guest Speakers/Trainers; Field Trips; Community Project Opportunities; Internships.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS
FFA; National Technical Honor Society (NTHS); Fishing Club (Participating Campuses)



The Agriculture, Food, and Natural Resources (AFNR) Career Cluster® focuses on the essential elements of life—food, water, land, and air. This Career Cluster® includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

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ENVIRONMENTAL AND NATURAL RESOURCES

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Environmental and Natural Resources program of study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Wildlife, Fisheries and Ecology Management
- Energy and Natural Resources

Choose additional credits from the following:

- Principles of Agriculture, Food and Natural Resources
- Practicum in Agriculture, Food and Natural Resources
- Natural Resources: Environmental and Natural Resources
- Horticulture
- Small Animal Management/Equine Science
- Professional Communications or Entrepreneurship
- Career Preparation
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

Hunter Education certification covers the core competencies of firearm and hunting safety, hunting ethics and wildlife conservation.

Boater Education certification covers safety and operating competencies for those who wish to operate certain vessels on the public waterways of Texas.

NOTES:

PLANT SCIENCE

PROGRAM OF STUDY

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



INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

Texas State Floral Association Certifications:
Floral Skills Knowledge Base; Level I; Level II

Texas Data: Collected by TEA October 2019

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Soil and Plant Scientists	\$54,662	116	21%
Tree Trimmers and Pruners	\$32,240	589	14%
Pesticide Handlers, Sprayers, and Applicators	\$36,733	196	22%
Landscaping Supervisors	\$44,408	807	19%
Biological Technicians	\$42,931	452	17%

RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Agriculture, Food, and Natural Resources
- 2 LEVEL** Floral Design and/or Horticulture Science (LHS, CPHS)
- 3 LEVEL** Advanced Floral Design
- 4 LEVEL** Practicum in Agriculture, Food, and Natural Resources: Plant Science

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES

Industry Guest Speakers; Field Trips; Greenhouse Experiences (LHS, CPHS); Campus and Community Floral Services; Internships.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS

FFA; National Technical Honor Society (NTHS).



The Agriculture, Food, and Natural Resources (AFNR) Career Cluster® focuses on the essential elements of life—food, water, land, and air. This Career Cluster® includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

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PLANT SCIENCE

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Plant Science program of study are listed below.



4 CREDITS REQUIRED

Choose 2 credits from the following:

- Horticulture
- Floral Design
- Advanced Floral Design

Choose additional credits from the following:

- Professional Communications or Entrepreneurship
- Principles of Agriculture, Food & Natural Resources
- Practicum in Agriculture, Food and Natural Resources: Plant Science
- Interior Design I
- Architectural Design I
- Career Preparation
- Project-based Research

NOTE: Students who complete the Plant Science Program of Study requirements are eligible to earn a STEM endorsement by also completing Algebra II, Chemistry and Physics.

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

The Texas State Floral Association Floral Skills and Knowledge Based Certification exam measures the following competencies such as industry-specific vocabulary, plant identification and the scientific and common names of plants.

The Texas State Floral Association Level One Floral Certification exam includes competencies such as understanding industry-specific vocabulary, plant identification, and common and scientific names of plants. In addition to the written exam, testers will be asked to complete a nine carnation triangle hands-on design and a rose boutonniere hands-on design. The following principles and elements of floral design should be considered as a tester designs the hands-on projects for the certification; Balance, Mechanics, Proportion/Scale, Depth/Rhythm, Focal Point, Dominance, Skeleton, Foliage, Unity, Form and Line.

The Texas State Floral Association Level Two Floral Certification includes competencies such as understanding industry-specific vocabulary, plant identification, and common and scientific names of plants. In addition to the Level 1 certification, students will be asked to complete a portfolio which includes an asymmetrical arrangement, vase arrangement, bow making/dress a plant, a wired & taped corsage, a stylized permanent botanical, volunteer/sharking of floral skill at two events, and any other designs the student would like to share.

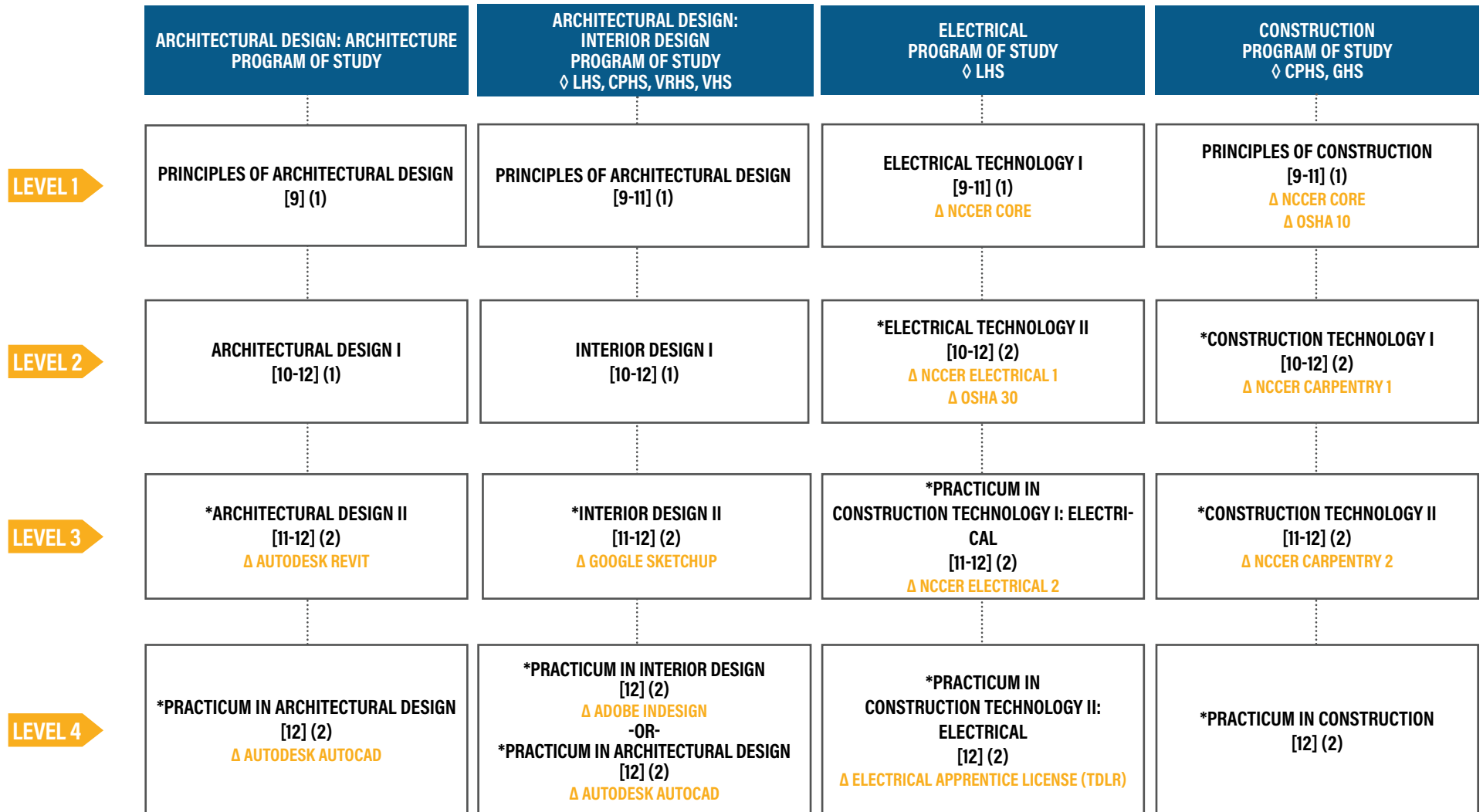
NOTES:



ARCHITECTURE AND CONSTRUCTION

Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE
 ▲ INDUSTRY-BASED CERTIFICATION
 [] GRADE LEVEL(S)
 () CREDITS
 ◇ SPECIALIZED PROGRAM



BUSINESS AND INDUSTRY

Note: Students who complete the Architectural Design or Electrical Program of Study requirements are eligible to earn a STEM endorsement by also completing Algebra II, Chemistry, and Physics. Refer to course catalog for additional course sequence options, course descriptions and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options. Specialized programs located on specific high school campuses are open to all LISD students; check with your campus College and Career Transition Coordinator for details.

ARCHITECTURE AND CONSTRUCTION

BUSINESS AND INDUSTRY

**ARCHITECTURAL DESIGN:
ARCHITECTURE**

PROGRAM OF STUDY

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

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES	
AutoDesk Certified User - Revit and AutoCad	

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Architects	\$77,043	808	16%
Geographic Information Analysts and Surveyors	\$58,926	162	27%
Architectural/Civil Drafters	\$50,170	1,068	9%
Civil Engineers	\$89,960	2,394	12%
Construction Managers	\$87,402	2,401	14%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Architectural Design
- 2 LEVEL** Architectural Design I
- 3 LEVEL** Architectural Design II
- 4 LEVEL** Practicum in Architectural Design

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES
Industry Guest Speakers; Field Trips; Industry Observations/Interviews; Industry Collaborative Projects; Internships.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS
SkillsUSA; National Technical Honor Society (NTHS)



The Architecture and Construction Career Cluster® focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management.

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ARCHITECTURAL DESIGN: ARCHITECTURE

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Architectural Design program of study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Architectural Design I
- Architectural Design II

Choose additional credits from the following:

- Principles of Architectural Design
- Practicum in Architectural Design
- Interior Design I
- Introduction to Engineering Design
- Principles of Construction (CPHS & GHS)
- Construction Technology (CPHS & GHS)
- Electrical Technology I (LHS)
- Agricultural Mechanics and Metal Technologies
- Professional Communications or Entrepreneurship
- Career Preparation
- Project-Based Research

NOTE: Students who complete the Architectural Design Program of Study requirements are eligible to earn a STEM endorsement by also completing Algebra II, Chemistry and Physics.

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

The Autodesk Certified User Revit certifications demonstrate entry-level knowledge using building information software for careers in architecture, interior design, and construction management. The certification can accelerate career development, improved productivity, and enhance credibility in the architectural and construction management industries.

An Autodesk AutoCAD Certified User will demonstrate competency in computer-aided design (CAD). The exam covers the basic use of the AutoCAD software as well as basic drafting and design techniques. Individuals who would like to earn an Autodesk AutoCAD certification will show demonstrated mastery in drawing objects with accuracy, modifying objects, using additional drawing techniques, and organizing objects. In addition, students should know how to reuse existing content, annotate drawings, complete layouts and printing and apply basic drawing skills.

NOTES:

ARCHITECTURE AND CONSTRUCTION

BUSINESS AND INDUSTRY

ARCHITECTURAL DESIGN: INTERIOR DESIGN

PROGRAM OF STUDY

Interior Design is a technical program that addresses psychological, physiological, and sociological needs of individuals by enhancing the environments in which they live and work. Students will use knowledge and skills related to interior and exterior environments, construction, and furnishings to make wise consumer decisions, increase productivity, promote sustainability, and compete in industry.



INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

Google Sketchup Certificate;
Adobe Certified Associate InDesign.

<https://www.onetonline.org/>

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Interior Designers	\$25.66 hourly (Average), \$53,370 annual (national average)	Projected 680 job openings (Texas)	16% projected growth 2016-2026 (Texas)

RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Human Services; Principles of Architectural Design
- 2 LEVEL** Interior Design I
- 3 LEVEL** Interior Design II
- 4 LEVEL** Practicum in Interior Design; Practicum in Architectural Design

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES

Industry Guest Speakers; Industry Site Visits/Field Trips/Observations; Internships/Externships; Community and Business Projects; Industry Program Partnerships.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS

Family, Career and Community Leaders of America (FCCLA); National Technical Honor Society (NTHS).



The Architecture and Construction Career Cluster® focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management.

Non-Discrimination Statement

It is the policy of Leander ISD not to discriminate on the basis of race, color, national origin, sex or handicap in its Career and Technology Education Programs, services, or activities. Leander ISD will take steps to assure that lack of English language skills will not be a barrier to admission and participation in all educational and vocational programs. Es norma de Leander ISD de no discriminar por motivos de raza, color, origen nacional, sexo o impedimento, en sus programas, servicios o actividades vocacionales. Leander ISD tomará las medidas necesarias para asegurar que la falta de habilidad en el uso de la lengua inglés no sea un obstáculo para la admisión o participación en todos los programas educativos y vocacionales.

INTERIOR DESIGN

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Interior Design program of study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Interior Design I
- Interior Design II

Choose additional credits from the following:

- Principles of Architectural Design or Principles of Human Services
- Practicum in Interior Design or Architectural Design
- Architectural Design I
- Floral Design
- Fashion Design I
- Graphic Design and Illustration I
- Professional Communications or Entrepreneurship
- Career Preparation Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

Google Sketchup Certificate verifies for industry that students have mastered foundational knowledge and skills of Google Sketchup software.

The Adobe Certified Associate InDesign exam measures the following domains: working in the design industry, project setup and interface, organizing documents, creating and modifying visual elements, and publishing digital media.

NOTES:

ARCHITECTURE AND CONSTRUCTION

BUSINESS AND INDUSTRY

CONSTRUCTION

PROGRAM OF STUDY

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

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES
Occupational Health and Safety Admin (OSHA) General 10-Hour; National Center for Construction Education (NCCER)- Core, Carpentry I, and Carpentry II.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Carpenters	\$35,922	5,031	26%
Architectural/Civil Drafters	\$50,170	1,068	9%
Geographic Information Analysts and Surveyors	\$58,926	162	27%
Cost Estimators	\$63,939	2,239	21%
Construction Managers	\$87,402	2,401	14%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Construction
- 2 LEVEL** Construction Technology I
- 3 LEVEL** Construction Technology II
- 4 LEVEL** Practicum in Construction Technology

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES
Industry Guest Speakers; Field Trips; Industry Interviews/Observations; Community Project Opportunities; Internships.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS
SkillsUSA; National Technical Honor Society (NTHS)



The Architecture and Construction Career Cluster® focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management.

Non-Discrimination Statement

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CONSTRUCTION

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Construction program of study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Principles of Construction
- Construction Technology I

Choose additional credits from the following:

- Construction Technology II
- Practicum in Construction Technology
- Electrical Technology (LHS)
- Principles of Architectural Design
- Architectural Design I
- Agricultural Mechanics and Metal Technologies
- Introduction to Engineering Design
- Professional Communications or Entrepreneurship
- Career Preparation
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

OSHA 10 General industry covers standards and regulations that OSHA has set in place to make sure all employees function in a safe work environment. Topics include: introduction to OSHA; Walking and Working Surfaces; Exit Routes, Emergency Action Plans, and Fire Prevention; Electrical; Personal Protective Equipment; Hazard Communication; Materials Handling; Machine Guarding; Bloodborne Pathogens.

National Center for Construction Education (NCCER) Core certification shows mastery in introductory craft skills such as basic safety, construction math, hand tools, power tools, construction drawings, basic rigging, communication skills, employability skills, and material handling.

National Center for Construction Education (NCCER) Carpentry I shows mastery in basic trade knowledge, building materials, fasteners, and adhesives, hand and power tools, construction drawings, specifications, and layouts, floor systems, wall systems, ceiling joist and roof framing, basic stair layout, building envelope systems.

National Center for Construction Education (NCCER) Carpentry II shows mastery in commercial drawings, cold-formed steel framing, exterior finishing, thermal and moisture protection, roofing applications, doors and door hardware, drywall installation, drywall finishing, suspended ceilings, window/door/floor/ceiling trim, and cabinet installation.

NOTES:

ARCHITECTURE & CONSTRUCTION

BUSINESS AND INDUSTRY

ELECTRICAL

PROGRAM OF STUDY

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

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES
Occupational Health and Safety Admin (OSHA) General 30-Hour; National Center for Construction Education (NCCER) - Core, Electrical I and II; Electrical Apprentice License Level I - Texas Department of Licensing and Regulation (TDLR)

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Electrical Linemen	\$54,184	1,314	28%
Electricians	\$44,013	8,460	21%
Electrical and Electronics Installers	\$37,544	245	19%
Security and Fire Alarm Installers	\$43,638	1,112	22%
Telecommunication Line Installers and Repairers	\$49,150	1,228	10%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Electrical Technology I
- 2 LEVEL** Electrical Technology II
- 3 LEVEL** Practicum in Construction Technology I: Electrical
- 4 LEVEL** Practicum in Construction Technology II: Electrical

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES
Industry Guest Speakers; Field Trips; Industry Mentors; Community Project Opportunities; Internships

CAREER AND TECHNICAL STUDENT ORGANIZATIONS
SkillsUSA; National Technical Honor Society (NTHS)



The Architecture and Construction Career Cluster® focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management.

Non-Discrimination Statement

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ELECTRICAL

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Electrical program of study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Electrical Technology I
- Electrical Technology II

Choose additional credits from the following:

- Practicum in Electrical Construction Technology I
- Practicum in Electrical Construction Technology II
- Principles of Construction (CPHS & GHS)
- Architectural Design I
- Agricultural Mechanics and Metal Technologies
- Introduction to Engineering Design
- Professional Communications or Entrepreneurship
- Career Preparation
- Project-Based Research

NOTE: Students who complete the Electrical Program of Study requirements are eligible to earn a STEM endorsement by also completing Algebra II, Chemistry and Physics.

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

OSHA 30 General industry covers standards and regulations that OSHA has set in place to make sure all employees function in a safe work environment. Topics include: OSHA inspection procedures, safety and health programs, record keeping, hazard communication, emergency action plans, fire prevention/detection/protection, electrical, combustible liquids, lockout/tagout, machine guarding, surfaces, welding and cutting, material handling, permit requirements, personal protective equipment, industry hygiene, bloodborne pathogens, hand/power tool safety.

National Center for Construction Education (NCCER) Core certification shows mastery in introductory craft skills such as basic safety, construction math, hand tools, power tools, construction drawings, basic rigging, communication skills, employability skills, and material handling.

The NCCER Level I Electrical exam covers the topics such as an orientation to the electrical trade, electrical safety, introduction to electrical circuits, electrical theory, introduction to the national electrical code, device boxes, hand bending, raceways and fittings, conductors and cables, basic electrical construction drawings, residential electrical services, and electrical test equipment.

The NCCER Level II Electrical exam covers the topics such as alternating current, motors: theory and application, electric lighting, conduit bending, pull and junction boxes, conductor installations, cable tray, conductor terminations and splices, grounding and bonding, circuit breakers and fuses, control systems and fundamental concepts.

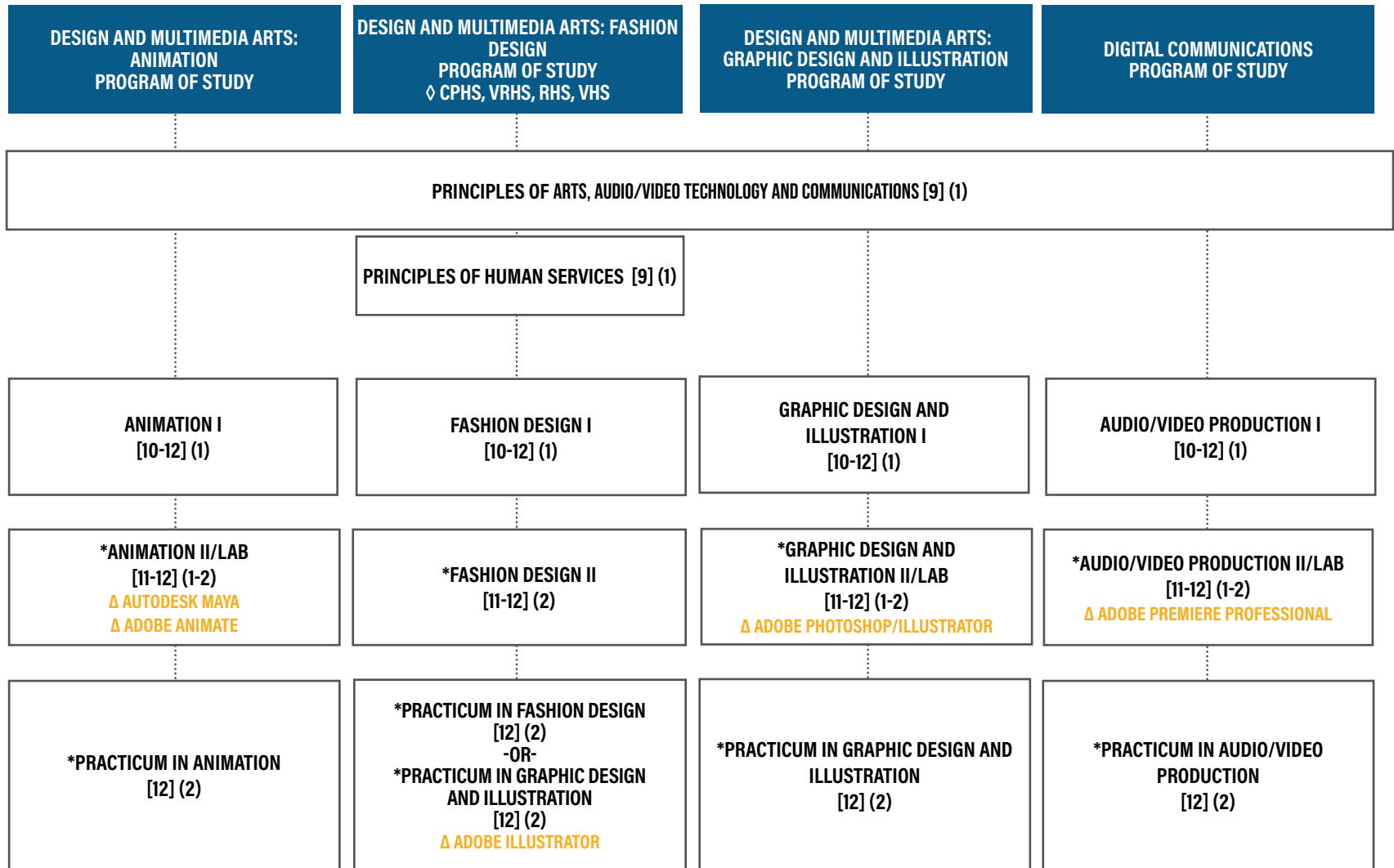
The Independent Electrical Contractors (IEC) Apprentice Training Programs combine the on-the-job training and formal related technical instruction you need to prepare you for this high-demand field. Each year, apprentices complete at least 144 hours of classroom training per year with lectures, demonstrations, labs and homework, and a comprehensive final that must be passed prior to graduating to the next training level. The IEC will allow high school students who complete high school electrical trades classes using the IEC curriculum to test out of the first year of our apprenticeship program. The students will be issued a certificate of completion and then after an evaluation be enrolled in the 2nd year of the training program of our four year electrical apprenticeship program. During the first year, apprentices will learn about First Aid, CPR, AED and jobsite safety. Additionally, electrical fundamentals and basic electrical theory, essential national electrical code rules and wiring methods will be covered. Finally, care and use of hand and power operated tools, conduit bending and other mechanical skills will be explored.



ARTS, AUDIO/VIDEO TECHNOLOGY AND COMMUNICATIONS

Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE
 Δ INDUSTRY-BASED CERTIFICATION
 [] GRADE LEVEL(S)
 () CREDITS



BUSINESS AND INDUSTRY

Note: Refer to course catalog for additional course sequence options, course descriptions and endorsement requirements.
 Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options.

ARTS, AUDIO/VIDEO TECHNOLOGY, AND COMMUNICATIONS

BUSINESS AND INDUSTRY

**DESIGN AND MULTIMEDIA
ARTS: ANIMATION**

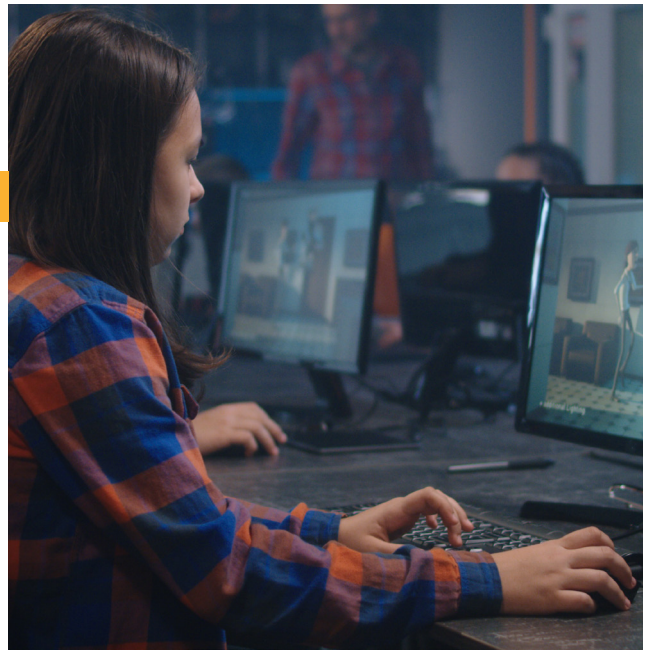
PROGRAM OF STUDY

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

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES
Autodesk Certified User (ACU) – Maya Adobe Certified Associate (ACA) – Animate

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Graphic Designers	\$44,824	1,433	15%
Multimedia Artists and Animators	\$67,392	186	21%




RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Arts, A/V and Communications
- 2 LEVEL** Animation I
- 3 LEVEL** Animation II/Lab
- 4 LEVEL** Practicum in Animation

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES
Industry Guest Speakers; Field Trips; Industry Observations/Interviews; Industry Collaborative Projects; Internships.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS
SkillsUSA; National Technical Honor Society (NTHS); UIL

 The Arts, A/V Technology and Communications (AAVTC) Career Cluster® focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. Careers in the AAVTC Career Cluster® require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication.

Non-Discrimination Statement

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DESIGN AND MULTIMEDIA ARTS: ANIMATION

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Design and Multimedia Arts program of study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Animation I
- Animation II/Lab

Choose additional credits from the following:

- Principles of Arts, A/V and Communications
- Practicum in Animation
- Graphic Design and Illustration I
- Fashion Design I
- Audio/Video Production I
- Advertising/Social Media Marketing
- Marketing
- Professional Communications or Entrepreneurship
- Career Preparation
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

An Adobe/Autodesk MAYA certification is an industry-recognized credential that effectively validates one's skills in Adobe digital-media software. An individual earning this certification has approximately 150 hours of instruction and hands-on experience with the product, and is familiar with core features and capabilities, as well as relevant career concepts.

The Adobe Certified Associate Animate exam measures the following domains: setting project requirements, understanding rich animated media, understanding adobe animate CC, creating rich animated media content using animate CC, testing, publishing, and evaluating rich animated media elements using animate CC.

NOTES:

ARTS, AUDIO/VIDEO TECHNOLOGY, AND COMMUNICATION

BUSINESS AND INDUSTRY

DESIGN & MULTIMEDIA ARTS: FASHION DESIGN

PROGRAM OF STUDY

The Fashion Design Program of Study allows students to experience all aspects of the fashion industry with an emphasis on textiles, apparel, design and construction. Students will develop professional standards and employability skills as required in the fashion industry. Fashion Design is a hands-on lab-based program where students produce fashion, textile, and apparel projects, learn industry equipment/technologies/software, create a portfolio, and gain business and industry career experiences.

Fashion Design (National Averages- Labor and Statics- https://www.bls.gov/)

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES			
Adobe Certified Associate (ACA) Illustrator			

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Costume Designer	\$63,670 per year	24,400	3%
Fashion Designer	\$75,810 per year \$36.45 per hour	28,300	-4%
Art Director	\$97,270 per year \$46.77 per hour	99,100	-1%
Purchasing Manager/Buyers	purchasing buyer \$66,690 purchasing managers \$125,940	526,200	-7% however with the massive amount of positions in this field there is lot of career opportunity
Fashion Illustrator	\$49,120 per year \$23.62 per hour	51,900	0% stable
Advertising, Promotions, and Marketing Managers	141,490 per year \$68.03 per hour	314,900	6% (Faster than average)
Retail Sales Workers	\$27,320 per year \$13.13 per hour	4,633,100	0% stable



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Arts, A/V and Communications; Principles of Human Services
- 2 LEVEL** Fashion Design I
- 3 LEVEL** Fashion Design II
- 4 LEVEL** Practicum in Fashion Design; Practicum in Graphic Design and Illustration

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES
Industry Guest Speakers; Industry Site Visits/Field Trips; Community Service Projects; Internships/Externships.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS
Family, Career, and Community Leaders of America (FCLCA); National Technical Honor Society (NHTS)



The Fashion Design pathway within the Arts, A/V Technology and Communications (AAVTC) Career Cluster® focuses on careers in design, production, exhibition, performance, including visual arts textile analysis, apparel design and construction. Careers in the AAVTC career cluster require a creative aptitude, a background in design, a strong academic foundation, and a proficiency in technical sewing skills and garment construction.

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FASHION DESIGN

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Fashion Design Program of Study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Fashion Design I
- Fashion Design II

Choose additional credits from the following:

- Principles of Arts, A/V and Communications or Principles of Human Services
- Practicum in Fashion Design or Practicum in Graphic Design and Illustration I
- Interior Design I
- Floral Design
- Professional Communications or Entrepreneurship
- Career Preparation
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

The Adobe Certified Associate Illustrator exam measures the following domains: working in the design industry, project setup and interface, organizing documents, creating and modifying visual elements, and publishing digital media.

NOTES:

DESIGN AND MULTIMEDIA ARTS: GRAPHIC DESIGN AND ILLUSTRATION

PROGRAM OF STUDY

The Design and Multimedia Arts: Graphic Design program of study explores the occupations and educational opportunities associated with designing graphics to meet specific commercial or promotional needs, such as advertisements, packaging, or logos. This program of study may also include exploration into designing clothing, creating animation, or the generation of other visual media for video, web, and interactive applications.

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES
Adobe Certified Associate (ACA)– Photoshop, Illustrator

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Graphic Designers	\$44,824	1,433	15%
Multimedia Artists and Animators	\$67,392	186	21%

WORK-BASED LEARNING EXPERIENCES
Industry Guest Speakers; Field Trips; Industry Observations/ Interviews; Industry/Community/Campus Collaborative or Service Projects; Internships.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS
SkillsUSA; National Technical Honor Society (NTHS); UIL



The Arts, A/V Technology and Communications (AAVTC) Career Cluster® focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, fashion design, and entertainment services. Careers in the AAVTC Career Cluster® require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication.

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RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Arts, A/V and Communications
- 2 LEVEL** Graphic Design and Illustration I
- 3 LEVEL** Graphic Design and Illustration II/Lab
- 4 LEVEL** Practicum in Graphic Design and Illustration

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

DESIGN AND MULTIMEDIA ARTS: GRAPHIC DESIGN AND ILLUSTRATION

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Design and Multimedia Arts program of study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Graphic Design and Illustration I
- Graphic Design and Illustration II/Lab

Choose additional credits from the following:

- Principles of Arts, A/V and Communications
- Practicum in Graphic Design and Illustration
- Fashion Design I
- Animation I
- Audio/Video Production I
- Advertising/Social Media Marketing
- Marketing
- Professional Communications or Entrepreneurship
- Career Preparation
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

An Adobe/Autodesk certification is an industry-recognized credential that effectively validates one's skills in Adobe digital-media software. An individual earning this certification has approximately 150 hours of instruction and hands-on experience with the product, and is familiar with core features and capabilities, as well as relevant career concepts.

The Adobe Certified Associate Photoshop exam measures the following domains: working in the design industry, project setup and interface, organizing documents, creating and modifying visual elements, and publishing digital media.

The Adobe Certified Associate Illustrator exam measures the following domains: working in the design industry, project setup and interface, organizing documents, creating and modifying visual elements, and publishing digital media.

NOTES:

DIGITAL COMMUNICATIONS

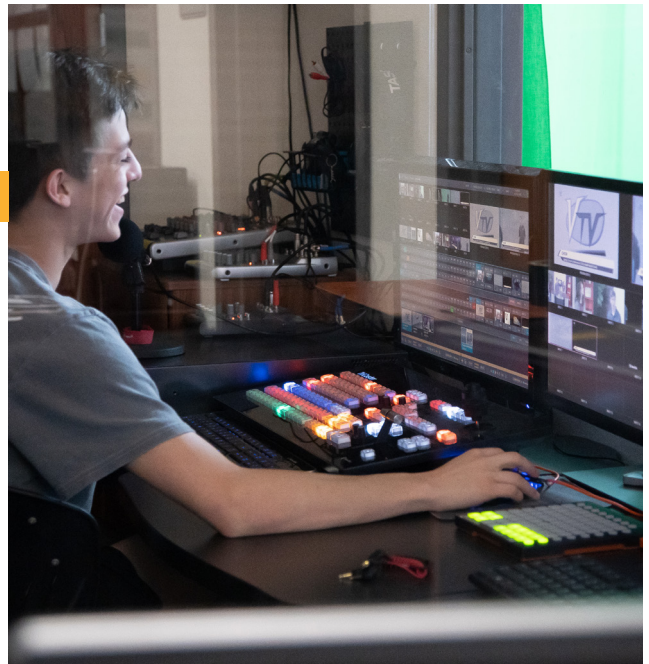
PROGRAM OF STUDY

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

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES
Adobe Certified Associate (ACA)- Premiere Professional

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Sound Engineering Technicians	\$39,562	79	27%
Camera Operators, Television, Video and Motion Picture	\$50,024	129	9%
Audio and Video Equipment Technicians	\$40,581	757	29%
Film and Video Editors	\$47,382	118	23%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Arts, A/V and Communications
- 2 LEVEL** Audio/Video Production I
- 3 LEVEL** Audio/Video Production II/Lab
- 4 LEVEL** Practicum in Audio/Video Production

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES	CAREER AND TECHNICAL STUDENT ORGANIZATIONS
Industry Guest Speakers; Field Trips; Non-profit PSA/Marketing Materials Production; Video Scoreboard & Camera Operators for Live Events; Student Production Services for School Organizations/Local Businesses; Industry Professional Interview Projects; Local/National Short Film Competitions; Internships.	SkillsUSA; Interscholastic League Press Conference (ILPC); UIL; National Technical Honor Society (NTHS)



The Arts, A/V Technology and Communications (AAVTC) cluster focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. Careers in the AAVTC Career Cluster® require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication.

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DIGITAL COMMUNICATIONS

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Digital Communications program of study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Audio/Video Production I
- Audio/Video Production II/Lab

Choose additional credits from the following:

- Principles of Arts, A/V and Communication
- Practicum in Audio/Video Production
- Graphic Design and Illustration I
- Animation I
- Advertising/Social Media Marketing
- Marketing
- Professional Communications or Entrepreneurship
- Career Preparation
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

An Adobe certification is an industry-recognized credential that effectively validates one's skills in Adobe digital-media software. An individual earning this certification has approximately 150 hours of instruction and hands-on experience with the product, and is familiar with core features and capabilities, as well as relevant career concepts.

The Adobe Certified Associate Premiere Pro exam measures the following domains: working in the video industry, project setup and interface, organizing video projects, creating and modifying visual elements and publishing digital media.

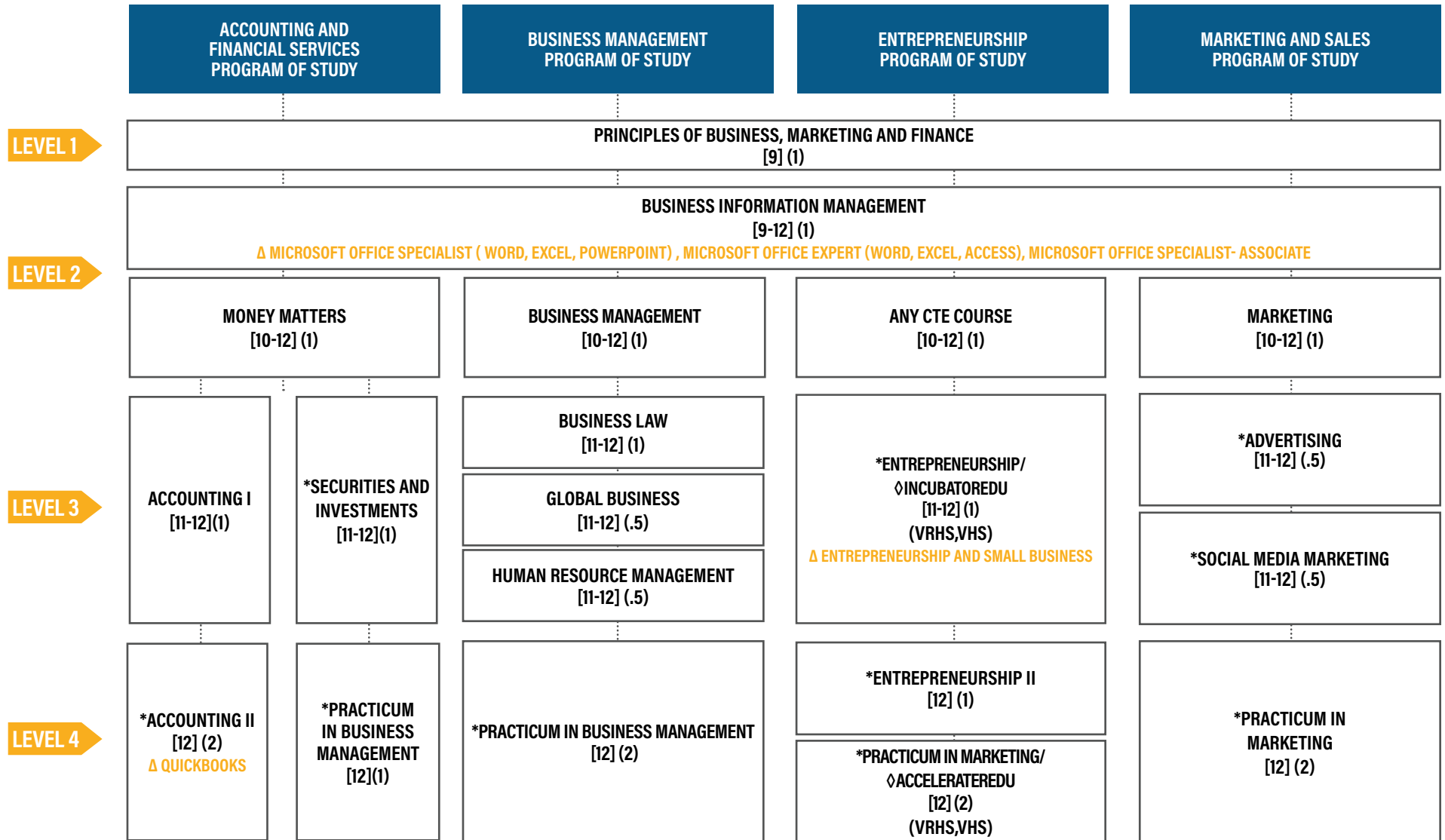
NOTES:



BUSINESS, MARKETING, AND FINANCE

Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE
 ▲ INDUSTRY-BASED CERTIFICATION
 [] GRADE LEVEL(S)
 () CREDITS
 ◇ SPECIALIZED PROGRAM



BUSINESS AND INDUSTRY

Note: Refer to course catalog for additional course sequence options, course descriptions, General Business, Marketing, and Finance Program of Study option, and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options. Specialized programs located on specific high school campuses are open to all LISD students; check with your campus College and Career Transition Coordinator for details.

BUSINESS, MARKETING, AND FINANCE

BUSINESS AND INDUSTRY

ACCOUNTING AND FINANCIAL SERVICES

PROGRAM OF STUDY

The Accounting and Financial Services program of study teaches students personal and professional money management skills. Students will use a variety of analytical tools and software platforms to understand and evaluate how money flows through a business, establish personal and/or business budgets, prepare and interpret financial statements or even build a personal investment portfolio. By choosing the courses offered in this program students will learn the skills needed to prepare for financial service careers including accounting, banking, corporate finance, auditing, and financial planning.

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

QuickBooks Certified User

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Accountants and Auditors	\$71,469	14,436	22%
Loan Officers	\$68,598	2,419	19%
Personal Financial Advisors	\$86,965	1,861	52%
Administrative Service Managers	\$96,138	2,277	21%
Insurance Underwriters	\$66,206	594	14%

WORK-BASED LEARNING EXPERIENCES

Personal Finance Lab Stock Market Simulation; Industry Guest Speakers; H&R Budget Challenge; Knowledge Matters Personal Finance Simulation.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS

DECA; National Technical Honor Society (NTHS); UIL



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Business, Marketing, and Finance; Business Information Management
- 2 LEVEL** Money Matters
- 3 LEVEL** Accounting I; Securities and Investments
- 4 LEVEL** Accounting II; Practicum in Business Management

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.



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.

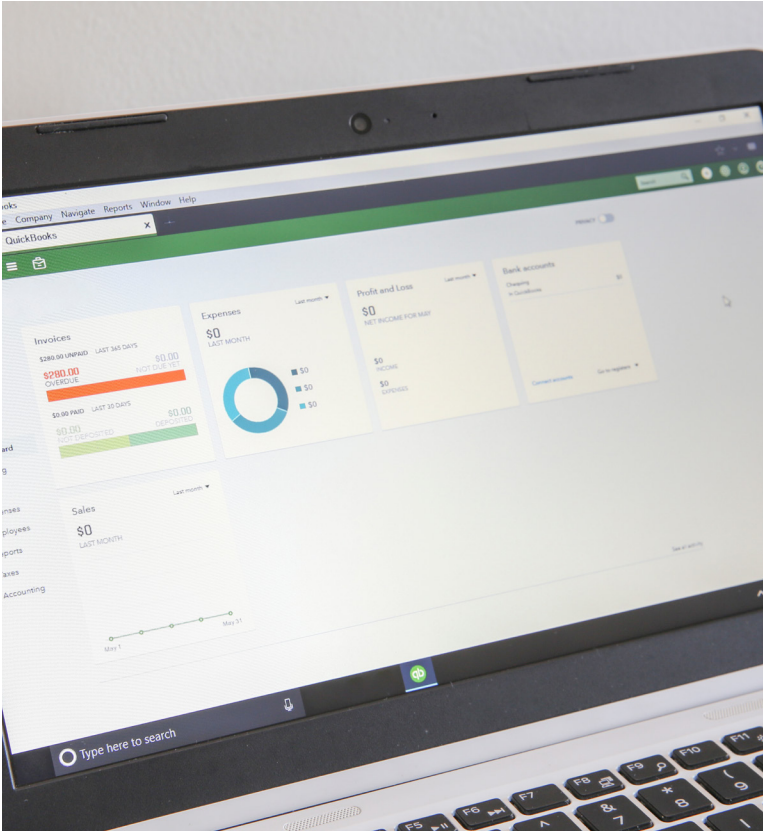
Non-Discrimination Statement

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ACCOUNTING AND FINANCIAL SERVICES

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Accounting and Financial Services program of study are listed below.



4 CREDITS REQUIRED

Choose 2 or more credits from the following:

- Money Matters
- Accounting I
- Accounting II
- Security and Investments

Choose additional credits, if needed, from the following:

- Principles of Business, Marketing and Finance
- Practicum in Business Management
- Entrepreneurship
- Business Information Management I
- Business Management
- Global Business/Human Resource Management
- Business Law
- Advertising/Social Media Marketing
- Career Preparation
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

In Leander ISD, Accounting II students have the opportunity to take the Intuit Quickbooks Desktop exam. Candidates are tested on basic accounting knowledge and utilities of the Quickbooks Desktop software that includes pre-built sample comparisons, multiple company files, annual updates, and data backed-up and restored. Students who become certified in Quickbooks, could potentially earn income performing bookkeeping services for small to medium sized businesses. Quickbooks is a key tool for resume and college applications. Earning certification gives third party validation that our students have mastered the software and can use it on the job.

Microsoft certifications are also available to students who take Business Information Management under the endorsement course options. Through MOS certification a user demonstrates the ability to command the full features and functionality of Microsoft Office including Word, Excel and PowerPoint, preparing them for future academic or workforce opportunities. MOS certification benefits students with job opportunities as many employers look for certification in their applicant screening process. Also, many colleges and universities requires MOS certification as a pre-requisite to some degree plans and/or offer college credit or course exemption for an equivalent course. Students taking Business Information Management will have the opportunity to learn the skills needed to successfully pass the MOS Associate certification exams in Word, Excel and PowerPoint and possibly the advanced features of MOS Expert in Word and Excel.

NOTES:

BUSINESS, MARKETING, AND FINANCE

BUSINESS AND INDUSTRY

BUSINESS MANAGEMENT

PROGRAM OF STUDY

The Business Management program of study leads students in future ready soft skills such as teamwork, communication and collaboration. Students will learn how to manage projects, staff an organization, and set workplace policies. Students will find solutions to the changing global marketplace, including legal conduct, and how it influences industry environments and operations.

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

Microsoft Office Specialist Associate: Word, Excel, PowerPoint
Microsoft Office Specialist Expert - Word, Excel

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Administrative Service Managers	\$96,138	2,277	21%
Management Analysts	\$87,651	4,706	32%
General and Operations Managers	\$107,640	118,679	20%
Operations Research Analysts	\$78,083	1,128	38%
Supervisors of Administrative Support Workers	\$57,616	14,982	20%

WORK-BASED LEARNING EXPERIENCES

Industry Guest Speakers; Industry Field Trips; Project Management Experience; Community Awareness Projects; Operate a School Store (LHS, GHS); Practicum with Internships and Job Shadowing Opportunities.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS

DECA; National Technical Honor Society (NTHS)



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Business, Marketing, and Finance
- 2 LEVEL** Business Information Management I, Business Management
- 3 LEVEL** Business Law, Global Business/ Human Resources Management
- 4 LEVEL** Practicum in Business Management

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.



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BUSINESS MANAGEMENT

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Business Management program of study are listed below.



4 CREDITS REQUIRED

Choose 3 credits from the following:

- Business Information Management I
- Business Law
- Global Business/Human Resource Management
- Business Management

Choose additional credits, if needed, from the following:

- Principles of Business, Marketing, & Finance
- Practicum in Business
- Business Management
- Advertising/Social Media Marketing
- Entrepreneurship
- Accounting I
- Money Matters
- Professional Communications or Entrepreneurship
- Career Preparation
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

Microsoft Office Specialist (MOS) is an industry certification program available to students enrolled in the Business Information Management course. Through MOS certification a user demonstrates the ability to command the full features and functionality of Microsoft Office including Word, Excel and PowerPoint, preparing them for future academic or workforce opportunities. MOS certification benefits students with job opportunities as many employers look for certification in their applicant screening process. Also, many colleges and universities requires MOS certification as a pre-requisite to some degree plans and/or offer college credit or course exemption for an equivalent course. Students taking Business Information Management will have the opportunity to learn the skills needed to successfully pass the MOS Associate certification exams in Word, Excel and PowerPoint and possibly the advanced features of MOS Expert in Word and Excel.

NOTES:

ENTREPRENEURSHIP

PROGRAM OF STUDY

Through the Entrepreneurship Program of Study, students will learn the necessary skills to plan, develop, and launch a start up business. During this process students will explore various business opportunities, complete a feasibility analysis, create and organize a plan to promote business and its products and services, and determine the return on investment and potential profit.



INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

Entrepreneurship and Small Business (ESB)

Texas Data: Collected by TEA October 2019

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
General and Operations Managers	\$107,640	18,679	20%
Management Analysts	\$87,651	4,706	32%
Managers, All others	\$113,110	1,794	26%

RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Business, Marketing, and Finance
- 2 LEVEL** Business Information Management I
- 3 LEVEL** Entrepreneurship
- 4 LEVEL** Entrepreneurship II, Practicum in Marketing

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES

Industry Guest Speakers and Mentors; Job Shadows; Internships; Industry and Post Secondary Education Site Visits/Field Trips.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS

DECA; National Technical Honor Society (NTHS)



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ENTREPRENEURSHIP

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Entrepreneurship program of study are listed below.



4 CREDITS REQUIRED

Choose 2 credits from the following:

- Entrepreneurship
- Entrepreneurship II OR Practicum in Marketing

Choose additional credits from the following:

- Principles of Business, Marketing and Finance
- Business Information Management I
- Business Management
- Advertising/Social Media Marketing
- Marketing
- Mobile App Development
- Global Business/Human Resource Management
- Accounting I
- Money Matters
- Career Preparation
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

The ESB certification is built to test and validate foundation-level concepts and knowledge in entrepreneurship and small business management. These core concepts include entrepreneurship; recognizing and evaluating opportunities; planning for, starting, and operating a business; marketing and sales; and financial management. Successful completion of this certification will validate skills and knowledge for those students interested in working in a middle-skill trade profession as their own boss and those with entrepreneurship and small business career aspirations. The ESB certification is endorsed by the Network for Teaching Entrepreneurship and the American Council on Education.

Microsoft certifications are also available to students who take Business Information Management under the endorsement course options. Through MOS certification a user demonstrates the ability to command the full features and functionality of Microsoft Office including Word, Excel and PowerPoint, preparing them for future academic or workforce opportunities. MOS certification benefits students with job opportunities as many employers look for certification in their applicant screening process. Also, many colleges and universities require MOS certification as a prerequisite to some degree plans and/or offer college credit or course exemption for an equivalent course. Students taking Business Information Management will have the opportunity to learn the skills needed to successfully pass the MOS Associate certification exams in Word, Excel and PowerPoint and possibly the advanced features of MOS Expert in Word and Excel.

NOTES:

BUSINESS MARKETING AND FINANCE

BUSINESS AND INDUSTRY

**ENTREPRENEURSHIP:
INCubatoredu**

PROGRAM OF STUDY

The Uncharted Learning entrepreneurship curriculum provides true engagement in a learn-by-doing, real-world setting. Students learn and apply business start-up practices and concepts to projects they're passionate about. They build, test, learn, apply – embracing the cycle of experimentation, which is core to entrepreneurship and great training ground for life – they get comfortable with failing and learning from failure. Working in teams and being supported by a dynamic mix of teachers, coaches, and mentors, all translates to deeper learning and skill building.

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES	
Entrepreneurship and Small Business (ESB)	

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
General and Operations Managers	\$107,640	18,679	20%
Management Analysts	\$87,651	4,706	32%
Managers, All Others	\$113,110	1,794	26%

WORK-BASED LEARNING EXPERIENCES
Industry Guest Speakers/Panels; Industry Mentors; Job Shadows; Internships; Industry and Post Secondary Education Site Visits/Field Trips; Industry Partnerships; Pitch Competitions.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS
DECA; National Technical Honor Society (NTHS)



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Business, Marketing, and Finance
- 2 LEVEL** Business Information Management I
- 3 LEVEL** Entrepreneurship (INCubatoredu)
- 4 LEVEL** Entrepreneurship II, Practicum in Marketing (ACCElляторedu)

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.



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ENTREPRENEURSHIP: INCubatoredu

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Entrepreneurship program of study are listed below.



4 CREDITS REQUIRED

Choose 2 credits from the following:

- Entrepreneurship (INCubaoredu)
- Entrepreneurship II OR Practicum in Marketing (ACCEleratoredu)

Choose additional credits from the following:

- Principles of Business, Marketing and Finance
- Business Information Management I
- Business Management
- Advertising/Social Media Marketing
- Marketing
- Mobile App Development
- Global Business/Human Resource Management
- Accounting I
- Money Matters
- Career Preparation
- Project-Based Research

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NOTES:

MARKETING AND SALES

PROGRAM OF STUDY

The Marketing and Sales program of study teaches students how to collect information to determine potential sales of a product or service and/or create a marketing campaign to market or distribute goods and services. Through this program of study, students will learn the skills necessary to understand and apply data on customer demographics, preferences, needs, and buying habits.



Texas Data: Collected by TEA October 2019

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Marketing Research Analysts and Marketing Specialists	\$70,346	4,664	40%
Insurance Sales Agents	\$43,181	5,886	30%
First-Line Supervisors of Retail Sales Workers	\$72,550	2,826	15%
Wholesale and Retail Buyers	\$51,106	1,229	19%

RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Business, Marketing and Finance
- 2 LEVEL** Marketing
- 3 LEVEL** Advertising / Social Media Marketing
- 4 LEVEL** Practicum in Marketing

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES	CAREER AND TECHNICAL STUDENT ORGANIZATIONS
Industry Guest Speakers and Mentors; Job Shadows; Internships; Industry and Post Secondary Education Field Trips.	DECA; National Technical Honor Society (NTHS)



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MARKETING AND SALES

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Entrepreneurship program of study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Marketing
- Advertising / Social Media Marketing

Choose additional credits from the following:

- Principles of Business, Marketing and Finance
- Practicum in Marketing
- Business Information Management I
- Entrepreneurship
- Business Management
- Global Business / Human Resource Management
- Accounting I
- Money Matters
- Career Preparation
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

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NOTES:



ENGLISH

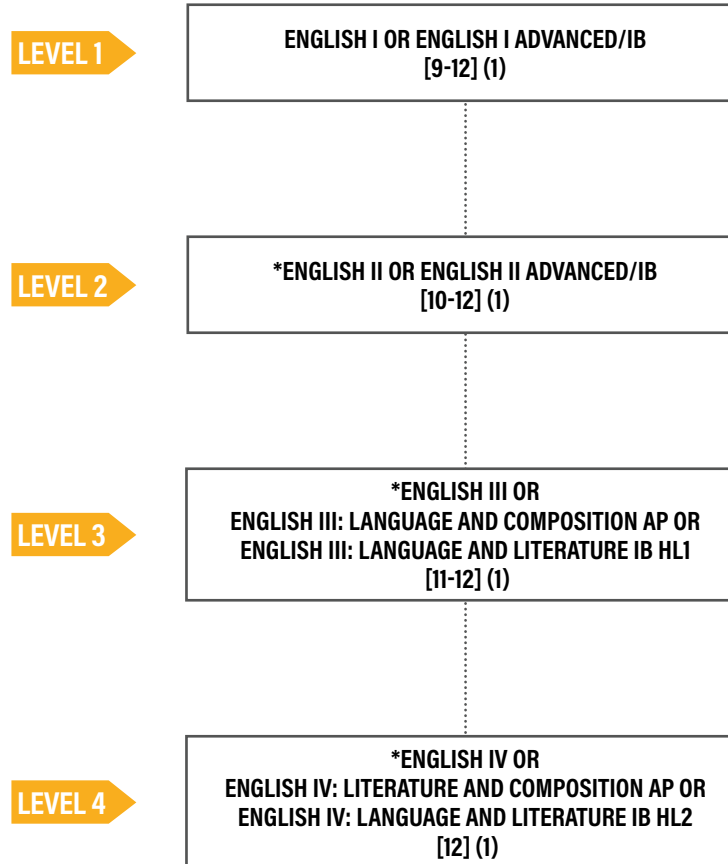
Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE

▲ INDUSTRY-BASED CERTIFICATION

[] GRADE LEVEL(S)

() CREDITS



Note: Refer to course catalog for additional course sequence options, course descriptions and endorsement requirements.

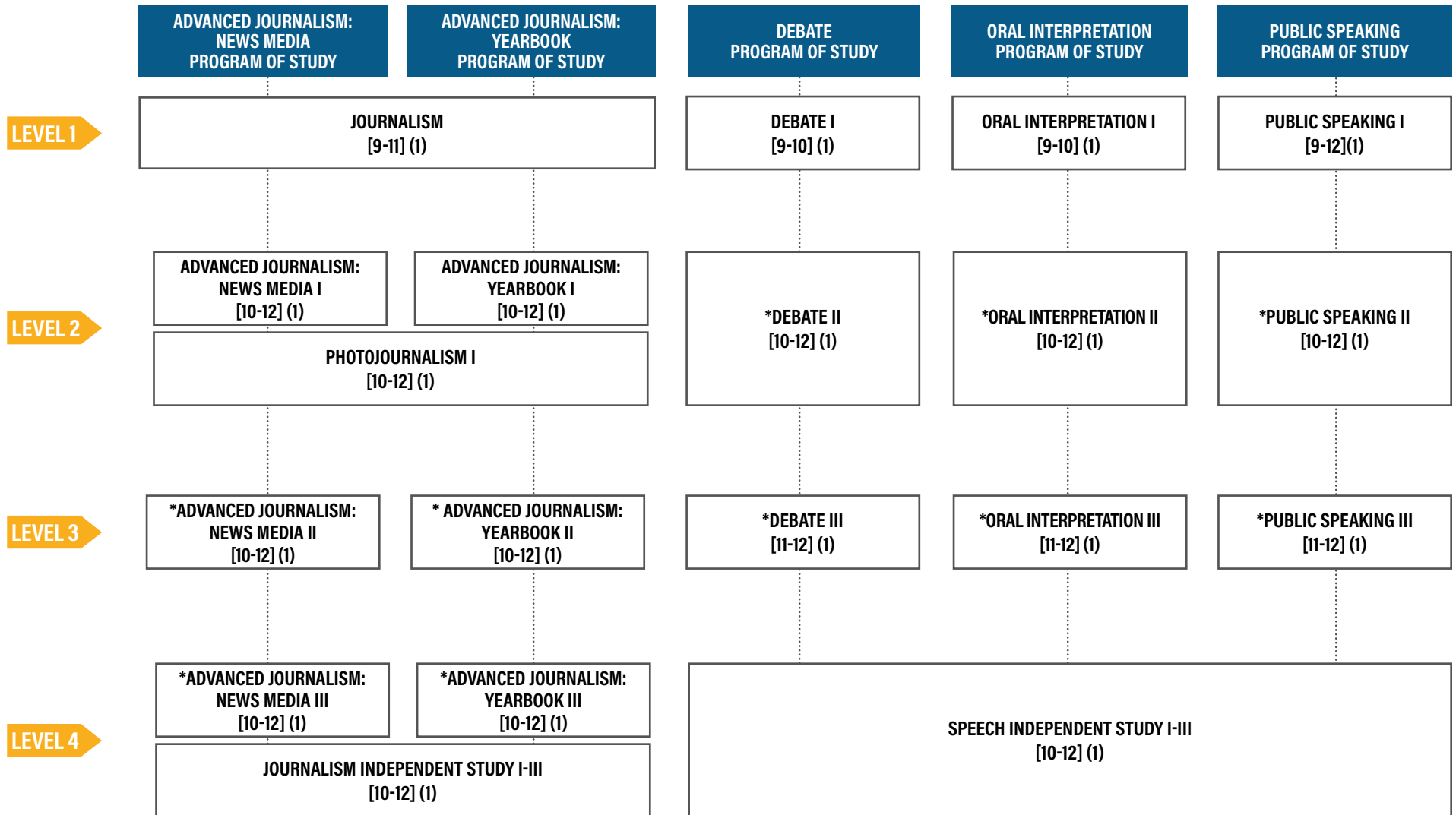
Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options. College Prep English curriculum is embedded in English IV curriculum.



ENGLISH ELECTIVES

Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE
 ▲ INDUSTRY-BASED CERTIFICATION
 [] GRADE LEVEL(S)
 () CREDITS



BUSINESS AND INDUSTRY

Note: Refer to course catalog for additional course sequence options, course descriptions and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options.

ENGLISH ELECTIVES

BUSINESS AND INDUSTRY

ADVANCED JOURNALISM: NEWS MEDIA

PROGRAM OF STUDY

Journalism, Photojournalism and school-sponsored newspapers and yearbooks serve as a laboratory and an educational tool in the training of student journalists to provide information and editorial leadership. Students focus on matters concerning the school, local, national and international issues, to provide a forum for the exchange of ideas and viewpoints and to give coverage of newsworthy events directly related to the school, individual students, staff and organizations. These student-driven publications provide journalism staff members with hands-on scholastic training on management and production of the school publications, using editorial judgment and journalistic integrity, as well as working within time constraints and budget limitations.

OCCUPATIONS CHART

Sports Information Director · Public Information Officer · Copywriter · Influencer · Brand Manager · Videographer · Content Producer · Digital Marketer · Consumer Market Specialist · Media Sales Manager · Publisher · Multimedia Artist · Television Producer · Webmaster · Sports Broadcaster · Sales Manager · Social Media Manager · Production Assistant · Teacher · Photojournalist · Executive Producer · Foreign Correspondent · Creative Director · Media Relations Advertising Specialist · Public Relations Manager · Reporter · Political Communication Director · Graphic Designer · Editor · Communications Director · Promotions Manager · Advertising Account Executive · Multimedia Journalist

STUDENT EXPERIENCES

1. Plan, produce & publish campus publications including yearbook, newspaper & news media website.
2. Attend and compete at local, state and national journalism conventions.
3. Work with industry professionals at summer journalism workshops and fall intensity workshop.
4. Produce news content for local newspaper.



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RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Journalism
- 2 LEVEL** Advanced Journalism: News Media I, Photojournalism I
- 3 LEVEL** Advanced Journalism: News Media II
- 4 LEVEL** Advanced Journalism: News Media III

NOTE: Course descriptions and details can be found in the course catalog.

EXTRA-CURRICULAR/ STUDENT ORGANIZATIONS

UIL Writing Team: News Writing, Feature Writing, Editorial Writing, Headline Writing, Copy Editing

Scholastic Journalism Organizations:

1. Interscholastic League Press Conference (ILPC -- Journalism branch of UIL for Texas)
2. National Scholastic Press Association
3. National Columbia Scholastic Press Association
4. Quill & Scroll Honor Society (some campuses)

ADVANCED JOURNALISM: YEARBOOK

PROGRAM OF STUDY

Journalism, Photojournalism and school-sponsored newspapers and yearbooks serve as a laboratory and an educational tool in the training of student journalists to provide information and editorial leadership. Students focus on matters concerning the school, local, national and international issues, to provide a forum for the exchange of ideas and viewpoints and to give coverage of newsworthy events directly related to the school, individual students, staff and organizations. These student-driven publications provide journalism staff members with hands-on scholastic training on management and production of the school publications, using editorial judgment and journalistic integrity, as well as working within time constraints and budget limitations.

OCCUPATIONS CHART

Sports Information Director · Public Information Officer · Copywriter · Influencer · Brand Manager · Videographer · Content Producer · Digital Marketer · Consumer Market Specialist · Media Sales Manager · Publisher · Multimedia Artist · Television Producer · Webmaster · Sports Broadcaster · Sales Manager · Social Media Manager · Production Assistant · Teacher · Photojournalist · Executive Producer · Foreign Correspondent · Creative Director · Media Relations · Advertising Specialist · Public Relations Manager · Reporter · Political Communication Director · Graphic Designer · Editor · Communications Director · Promotions Manager · Advertising Account Executive · Multimedia Journalist

STUDENT EXPERIENCES

1. Plan, produce & publish campus publications including yearbook, newspaper & news media website.
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RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Journalism
- 2 LEVEL** Advanced Journalism: Yearbook I, Photojournalism I
- 3 LEVEL** Advanced Journalism: Yearbook II
- 4 LEVEL** Advanced Journalism: Yearbook III

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

EXTRA-CURRICULAR/ STUDENT ORGANIZATIONS

UIL Writing Team: News Writing, Feature Writing, Editorial Writing, Headline Writing, Copy Editing

Scholastic Journalism Organizations:

1. Interscholastic League Press Conference (ILPC -- Journalism branch of UIL for Texas)
2. National Scholastic Press Association
3. National Columbia Scholastic Press Association
4. Quill & Scroll Honor Society (some campuses)

ADVANCED JOURNALISM: YEARBOOK

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for English Elective programs of study are listed below.



4 CREDITS REQUIRED

Required Courses: 3 credits of the same disciplines in one of the following areas:

- Advanced Journalism: News Media I-III
- Advanced Journalism: Yearbook I-III
- Public Speaking I-III
- Debate I-III
- Oral Interpretation I-III

Choose additional credit from the following:

- Journalism
- Independent Study in Speech
- Independent Study in Journalism
- English IV
- AP English Literature and Composition
- IB Language Studies

NOTES:

DEBATE, PUBLIC SPEAKING, AND ORAL INTERPRETATION

PROGRAM OF STUDY

Speech & Debate offers LISD students opportunities to develop and enhance their writing, researching, listening and speaking skills. Students apply these skills by competing with their high school’s Speech & Debate Team at local and state tournaments, scholarship speech competitions, as well as speaking at community activities.

The Wall Street Journal report did specifically highlight a “consistent trend” — one that speech and debate coaches have known for a long time — that dedicated participation in debate has significantly increased the success rate of college applicants at all schools which track such data.

Texas Data: Collected by TEA October 2019

OCCUPATIONS	ANNUAL MEAN SALARIES BASED ON NATIONAL BUREAU OF LABOR STATISTICS
Law	\$ 70,000–\$139,000
Politics	\$38,500
Management	\$138,800
Academia/Teaching & Debate Education	\$53,420

STUDENT EXPERIENCES

Competitive opportunities in Texas Forensic Association and University of Interscholastic League; National Speech & Debate Association Membership; Speech & Debate Team.



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RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Debate 1; Public Speaking 1; Oral Interpretation 1
- 2 LEVEL** Debate 2; Public Speaking 2; Oral Interpretation 2
- 3 LEVEL** Debate 3; Public Speaking 3; Oral Interpretation 3
- 4 LEVEL** Independent Study in Speech

NOTE: Course descriptions and details can be found in the course catalog.

ENDORSEMENT

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for English Elective programs of study are listed below.

CREDITS REQUIRED

Choose 3 credits of the same disciplines in one of the following areas:

- Advanced Journalism: News Media I-III
- Advanced Journalism: Yearbook I-III
- Public Speaking I-III
- Debate I-III
- Oral Interpretation I-III

Choose additional credits from the following:

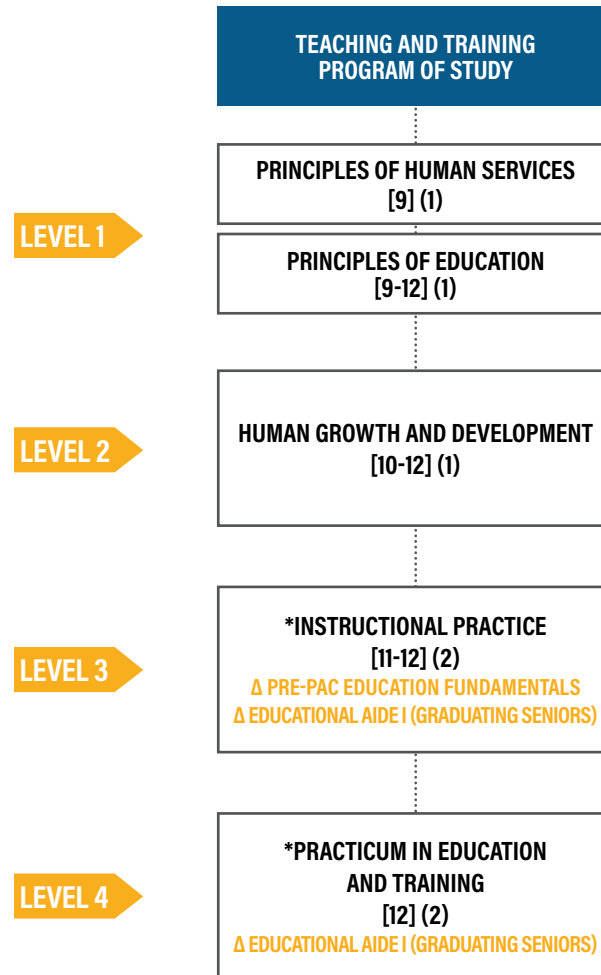
- Journalism
- Independent Study in Speech
- Independent Study in Journalism
- English IV
- AP English Literature and Composition
- B Language Studies



EDUCATION AND TRAINING

Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE
Δ INDUSTRY-BASED CERTIFICATION
[] GRADE LEVEL(S)
() CREDITS



PUBLIC SERVICE

Note: Refer to course catalog for additional course sequence options, course descriptions and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options.

TEACHING AND TRAINING

PROGRAM OF STUDY

The Teaching and Training program of study prepares students for careers related to teaching, coaching, or other fields in education such as counseling, speech pathology, special education, and instructional aides. By working with students, planning and teaching lessons, and assisting with other teacher responsibilities, students will gain real world experience in the classroom. Students will be provided observation & internship opportunities within local schools. Participants of the Ready, Set, Teach program are guaranteed a job interview with LISD upon completing a teacher certification program.



INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

Educational Aid I; Education Fundamentals Pre-PAC AAFCS (American Association of Family and Consumer Sciences)

Texas Data: Collected by TEA October 2019

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Adult Basic and Secondary Education and Literacy Teachers and Instructors	\$48,069	862	17%
Middle School Teachers, Except Special and Career/Technical Education	\$54,510	6,407	15%
Career and Technical Education Teachers, Secondary School	\$56,360	719	9%
Special Education Teachers, Secondary School	\$56,720	980	18%

RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Education
- 2 LEVEL** Human Growth and Development
- 3 LEVEL** Instructional Practice
- 4 LEVEL** Practicum in Education & Training

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES

Industry Guest Speakers; Industry Site Visits/Field Trips; Industry Mentors; Community Project Opportunities; On-Site Classroom Observations; Internships/Externships.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS

Family, Career and Community Leaders of American (FCCLA); National Technical Honor Society (NTHS)



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.

Non-Discrimination Statement

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TEACHING AND TRAINING

PUBLIC SERVICE

A student may earn a Public Service Endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Family & Community Services program of study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Principles of Education
- Instructional Practice

Choose additional credits from the following:

- Principles of Human Services
- Practicum in Education and Training
- Human Growth and Development
- Lifetime Nutrition and Wellness / Interpersonal Studies
- Counseling and Mental Health
- Professional Communications
- Career Preparation
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

The Educational Aide I certification measures the following domains or competencies: planning, managing, and providing education and training services and related learning support services; exploring and understanding needed preparation for Education and Training careers; and participating in a field based internship that provides background knowledge of child and adolescent development as well as principles of effective teaching and training practices. A student who completes the Educational Aide I certification could work in a variety of occupations within an educational setting. Some of the work activities could include: Tutoring and assisting children individually or in small groups to help them master assignments and to reinforce learning concepts; supervising students; teaching social skills to students; providing extra assistance to students with special needs; observing students' performance, and recording relevant data to assess progress and presenting subject matter to students under the direction and guidance of teachers, using lectures, discussions, or supervised role-playing methods.

Educational Fundamentals Pre-PAC (AAFCS) is an industry recognized certification driven by industry standards that validates achievement of competencies related to fundamentals of education and training.

NOTES:



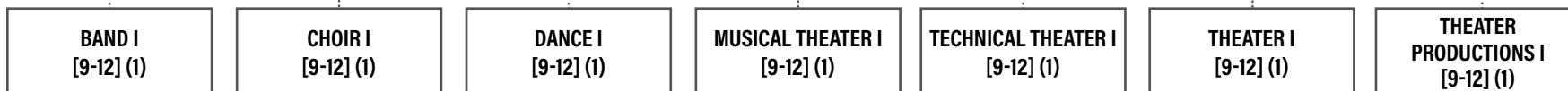
FINE ARTS: PERFORMING ARTS

Recommended Course Sequences

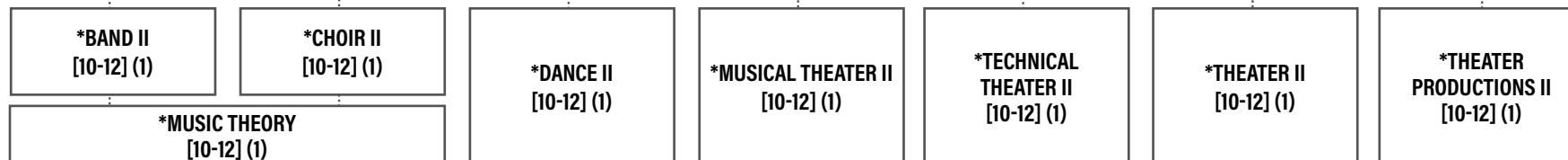
*COURSE HAS A REQUIRED PREREQUISITE
 ▲ INDUSTRY-BASED CERTIFICATION
 [] GRADE LEVEL(S)
 () CREDITS

FINE ARTS PROGRAM OF STUDY

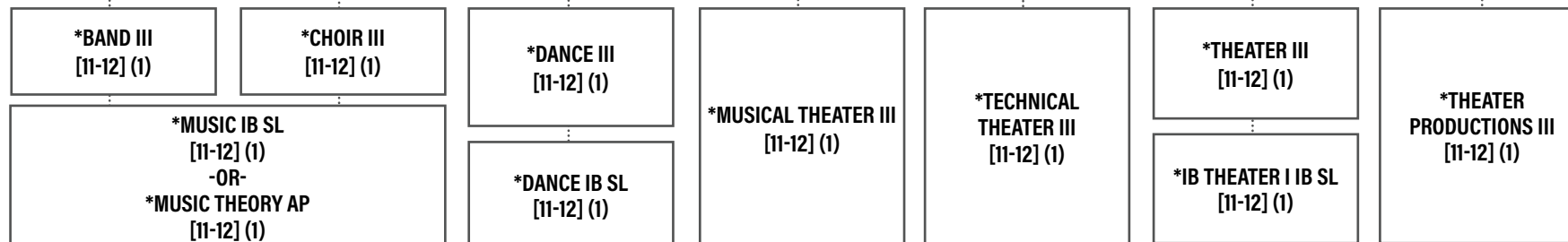
LEVEL 1



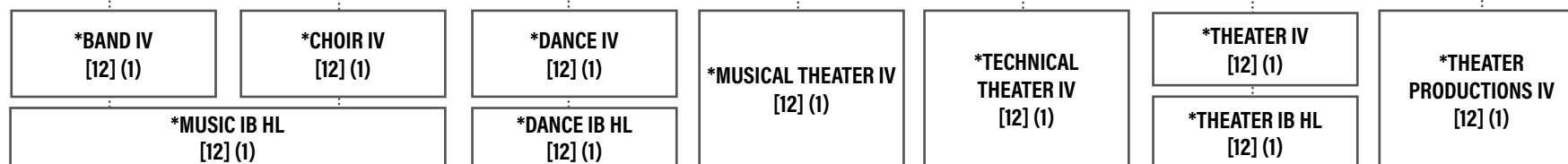
LEVEL 2



LEVEL 3



LEVEL 4



ARTS AND HUMANITIES

Note: Jazz Ensemble I-IV and Instrument Ensemble:Chamber I-IV are available in the Band sequence with concurrent enrollment requirements. Vocal Ensemble I-IV is available in the Choir sequence with concurrent enrollment requirements. Refer to course catalog for additional course sequence options, course descriptions and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options.



FINE ARTS: VISUAL ARTS

Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE
 ▲ INDUSTRY-BASED CERTIFICATION
 [] GRADE LEVEL(S)
 () CREDITS

FINE ARTS PROGRAM OF STUDY

LEVEL 1

ART I [9-12] (1) -OR- ART I STUDIO [9-12] (1)

LEVEL 2

*CERAMICS II [10-12] (1) *DRAWING II [10-12] (1) *PAINTING II [10-12] (1) *PHOTOGRAPHY II [10-12] (1) *SCULPTURE II [10-12] (1)

*AP ART HISTORY [10-12] (1)

LEVEL 3

*CERAMICS III [11-12] (1) *DRAWING III [11-12] (1) *PAINTING III [11-12] (1) *PHOTOGRAPHY III [11-12] (1) *SCULPTURE III [11-12] (1)

*AP ART THREE-DIMENSIONAL DESIGN PORTFOLIO [11-12] (1) *AP ART DRAWING PORTFOLIO [11-12] (1) *AP ART TWO-DIMENSIONAL DESIGN PORTFOLIO [11-12] (1) *AP ART THREE-DIMENSIONAL DESIGN PORTFOLIO [11-12] (1)

*ART IB SL [11-12] (1)

LEVEL 4

*CERAMICS IV [12] (1) *DRAWING IV [12] (1) *PAINTING IV [12] (1) *PHOTOGRAPHY IV [12] (1) *SCULPTURE IV [12] (1)

*ART IB HL [12] (1)

ARTS AND HUMANITIES

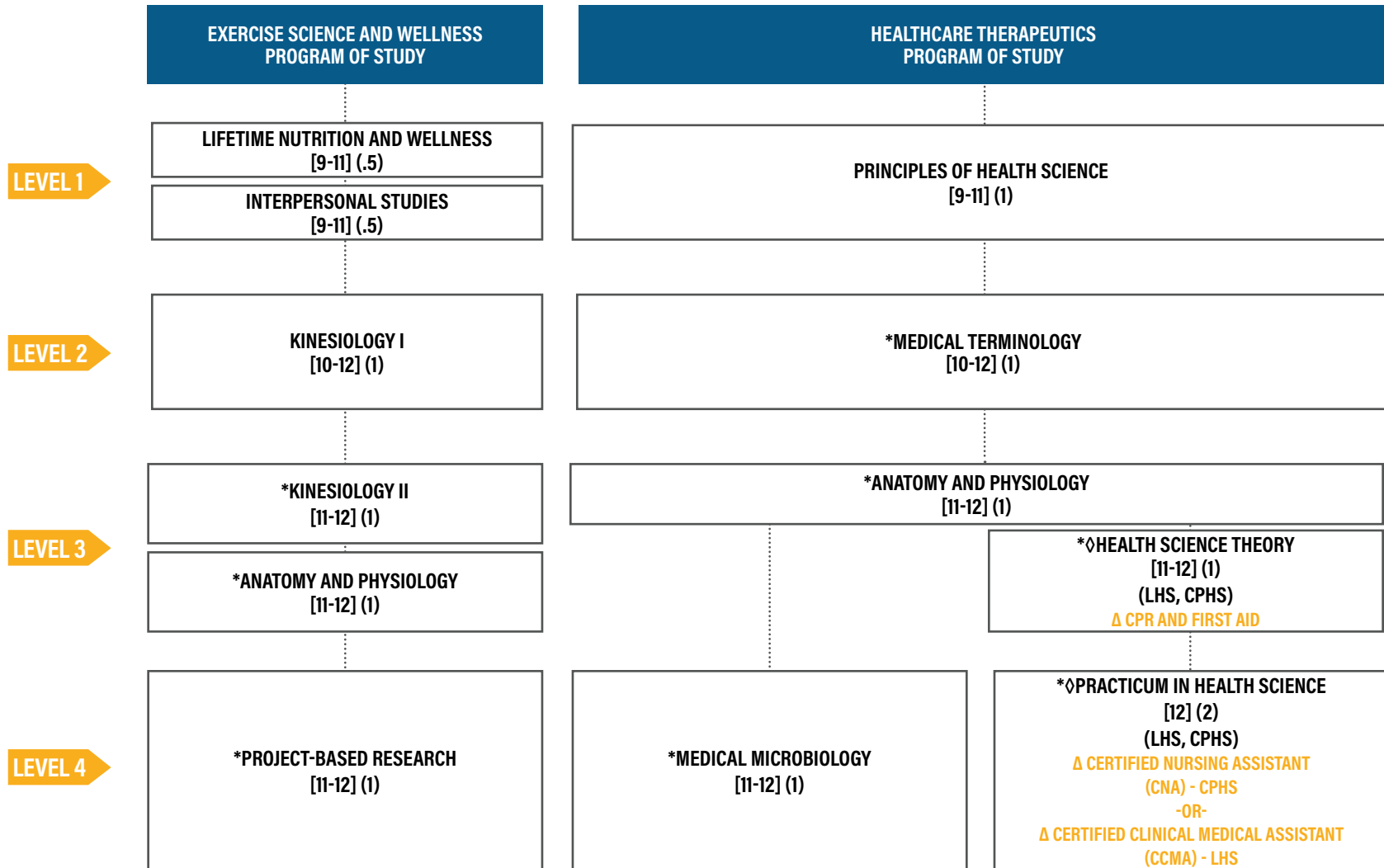
Note: Refer to course catalog for additional course sequence options, course descriptions and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options.



HEALTH SCIENCE

Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE
 Δ INDUSTRY-BASED CERTIFICATION
 [] GRADE LEVEL(S)
 () CREDITS
 ◇ SPECIALIZED PROGRAM



PUBLIC SERVICE

Students who complete the Healthcare Therapeutics or Exercise Science and Wellness Program of Study requirements are eligible to earn a STEM endorsement by also completing Algebra II, Chemistry, and Physics. Note: Refer to course catalog for additional course sequence options, course descriptions General Medical Science Program of Study Option, and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options. Specialized programs located on specific high school campuses are open to all LISD students; check with your campus College and Career Transition Coordinator for details.

EXERCISE SCIENCE AND WELLNESS

PROGRAM OF STUDY

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

Texas Data: Collected by TEA October 2019

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Athletic Trainers	\$53,450	215	22%
Exercise Physiologists	\$41,662	33	33%
Coaches and Scouts	\$40,010	2,133	23%
Dietitians and Nutritionists	\$57,762	428	24%
Recreational Therapists	\$45,906	74	24%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Lifetime Nutrition and Wellness/ Interpersonal Studies
- 2 LEVEL** Kinesiology I
- 3 LEVEL** Kinesiology II, Anatomy and Physiology
- 4 LEVEL** Project-Based Research

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES	CAREER AND TECHNICAL STUDENT ORGANIZATIONS
Industry Guest Speakers/Demonstrations; Site-Visits and Field Trips; Simulated Trainer Experiences	Health Occupations Students of America (HOSA); National Technical Honor Society (NTHS)



The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others.

Non-Discrimination Statement

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EXERCISE SCIENCE AND WELLNESS

PUBLIC SERVICE

A student may earn a Public Service Endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Exercise Science and Wellness program of study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Kinesiology I
- Kinesiology II

Choose additional credits from the following:

- Lifetime Nutrition and Wellness/
Interpersonal Studies
- Anatomy and Physiology
- Human Growth and Development
- Counseling and Mental Health
- Medical Terminology
- Introduction to Culinary Arts
or Entrepreneurship
- Career Preparation
- Project-Based Research

NOTE: Students who complete the Exercise Science and Wellness Program of Study requirements are eligible to earn a STEM endorsement by also completing Algebra II, Chemistry and Physics.



NOTES:

HEALTH SCIENCE

PUBLIC SERVICE

HEALTHCARE THERAPEUTIC

PROGRAM OF STUDY

The Healthcare Therapeutic program of study introduces students to occupations and educational opportunities related to diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study also includes an introduction to the opportunities associated with providing treatment and counsel to patients as well as rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES
CPR; First Aid; OSHA 10-Hour General Industry Healthcare Certification; Certified Medical Assistant (CMA)

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Medical Assistants	\$29,598	8,862	30%
Surgical Technologists	\$45,032	1,150	20%
Dental Hygienist	\$73,507	1,353	38%
Physicians and Surgeons	\$213,017	1,151	30%
Dental Assistants	\$34,840	4,422	31%

Additional Career Opportunities: Certified Nurse Aide/Assistant; Certified Medical Assistant; Phlebotomy Technician; EKG/EKG Technologist; Nursing; Medical Therapy.

WORK-BASED LEARNING EXPERIENCES
Industry Guest Speakers / Panels; Medical Facility and Lab Tours; Industry Observations; Blood Drives; Community Service; Hospital Clinical Rotations; Internships / Externships.

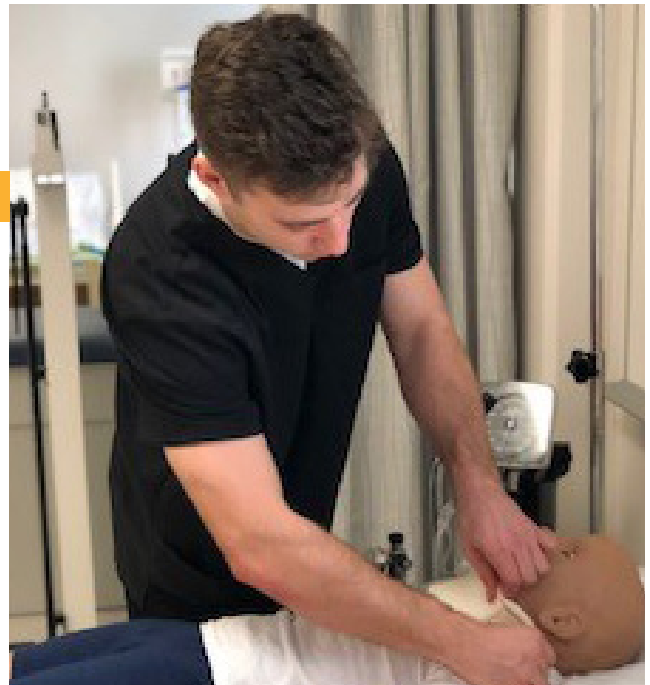
CAREER AND TECHNICAL STUDENT ORGANIZATIONS
Health Occupations Students of America (HOSA); National Technical Honor Society (NTHS)



The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others.

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RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Health Science
- 2 LEVEL** Medical Terminology
- 3 LEVEL** Health Science Theory Anatomy and Physiology
- 4 LEVEL** Practicum in Health Science, Medical Microbiology

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

HEALTHCARE THERAPEUTIC

PUBLIC SERVICE

A student may earn a Public Service Endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Healthcare Therapeutics program of study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Principles of Health Science
- Health Science Theory

Choose additional credits from the following:

- Practicum in Health Science
- Principles of Biomedical Science (PLTW)
- Medical Terminology
- Anatomy and Physiology
- Human Growth and Development
- Lifetime Nutrition and Wellness / Interpersonal Studies
- Counseling and Mental Health
- Career Preparation
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

CPR: This hands-on skills training prepares you to respond to breathing and cardiac emergencies. It also teaches the skills and knowledge needed to provide care for victims of sudden cardiac arrest through the safe use of an automated external defibrillator (AED). Valid for 2 years.

The First Aid certification teaches students to recognize and care for a variety of first aid emergencies such as burns, cuts, scrapes, sudden illnesses, head, neck, back injuries, heat and cold emergencies and how to respond to breathing and cardiac emergencies for victims about 12 years and older. Successful students will receive a certificate for Adult First Aid/CPR/AED valid for two years.

The OSHA 10-Hour General Industry (Healthcare) training course provides training for entry-level workers and employers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces in healthcare industry. The program also provides information regarding workers' rights, employer responsibilities, and how to file a complaint. Through this training, OSHA helps to ensure that workers are more knowledgeable about workplace hazards and their rights. Students who successfully complete the CareerSafe® OSHA 10-Hour General Industry (Healthcare) course receive an OSHA 10-Hour General Industry wallet card from the OSHA Training Institute (OTI).

Certified Medical Assistant (CMA): A medical assisting exam assesses a student's knowledge of therapeutic modalities, insurance filing procedures, medical terminology, clinical pharmacology, body systems, vital signs and measurements, human relations, lab procedures, performing and assessing an ECG, conducting patient education, financial book keeping, administrative duties, and medical law and ethics. Exam competencies may include clinical patient care, general patient care, administrative assisting, patient care and education, and infection control.

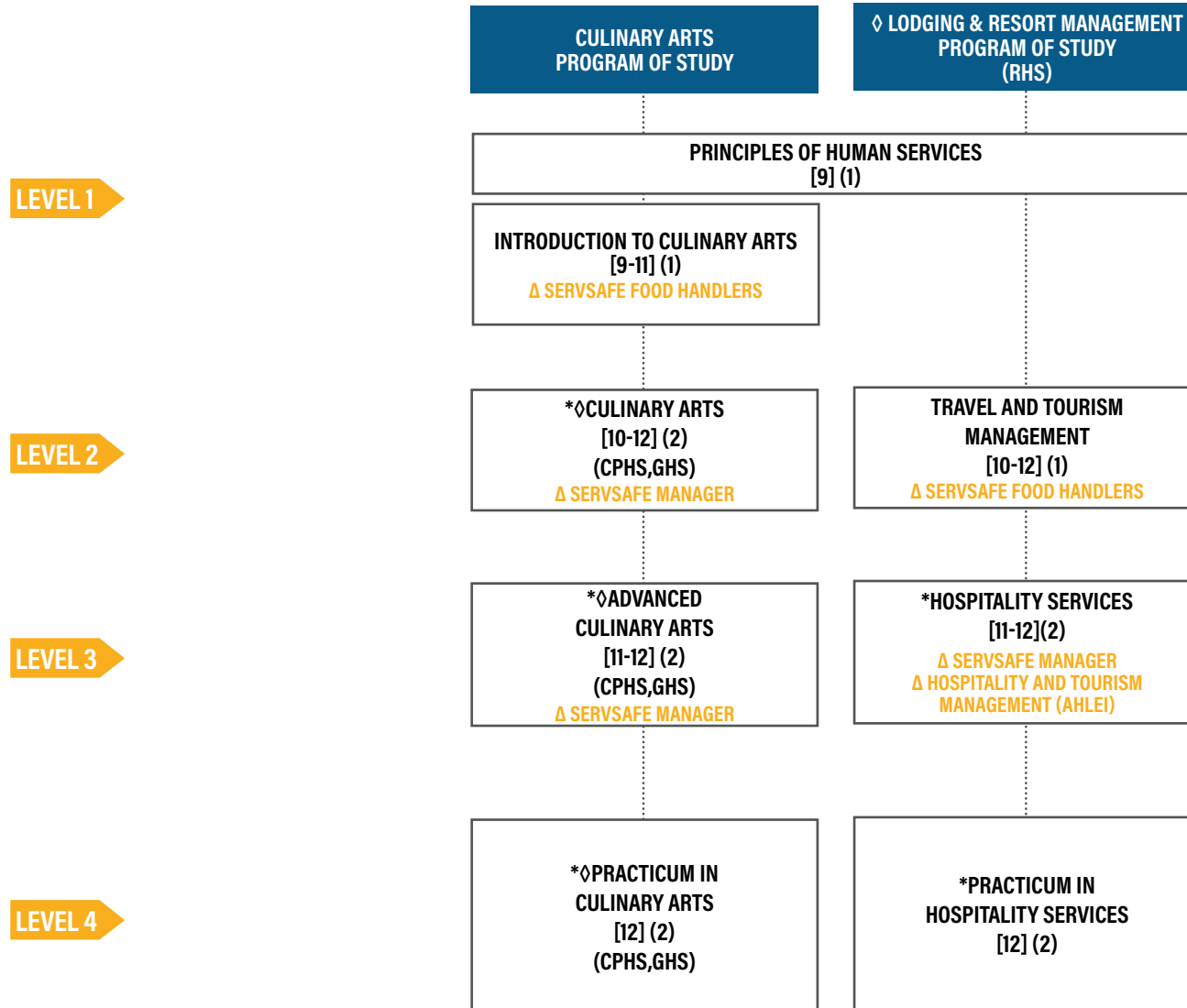
NOTES:



HOSPITALITY AND TOURISM

Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE
 Δ INDUSTRY-BASED CERTIFICATION
 [] GRADE LEVEL(S)
 () CREDITS
 ◇ SPECIALIZED PROGRAM



BUSINESS AND INDUSTRY

Note: Refer to course catalog for additional course sequence options, course descriptions and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options. Specialized programs located on specific high school campuses are open to all LISD students; check with your campus College and Career Transition Coordinator for details.

CULINARY ARTS

PROGRAM OF STUDY

The Culinary Arts program of study introduces students to occupations and educational opportunities related to the planning, directing, or coordinating the activities of a food and beverage organization or department. This program of study also explores opportunities involved in directing and participating in the preparation and cooking of food.

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES
ServSafe Food Handler; ServSafe Manager

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Food and Beverage Managers	\$55,619	1,561	28%
Chef and Head Cooks	\$43,285	1,366	25%
Food Science Technicians	\$34,382	236	11%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Introduction to Culinary Arts
- 2 LEVEL** Culinary Arts (CPHS, GHS)
- 3 LEVEL** Advanced Culinary Arts (CPHS, GHS)
- 4 LEVEL** Practicum in Culinary Arts (CPHS, GHS)

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES
Industry Guest Speakers; Industry Site Visits/Field Trips; Observations; Industry Mentors and Partnerships; In-House Dining and Catering Services; Internships/Externships.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS
Family, Career, and Community Leaders of America (FCCLA); ProStart; National Technical Honor Society (NTHS).



The Hospitality and Tourism Career Cluster focuses on the management, marketing, and operations of restaurants and other food/beverage services, lodging, attractions, recreation events, and travel-related services. Students acquire knowledge and skills focusing on communication, time management, and customer service that meet industry standards. Students will explore the history of the hospitality and tourism industry and examine the characteristics needed for success.

Non-Discrimination Statement

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CULINARY ARTS

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Culinary Arts program of study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Introduction to Culinary Arts
- Culinary Arts (CPHS, GHS)

Choose additional credits from the following:

- Advanced Culinary Arts (CPHS, GHS)
- Practicum in Culinary Arts (CPHS, GHS)
- Principles of Human Services or Principles of Business, Marketing and Finance
- Business Management
- Travel & Tourism Management (RHS)
- Advertising/Social Media Marketing
- Marketing
- Professional Communications or Entrepreneurship
- Career Preparation
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

The ServSafe Food Handler course and exam meet the requirements set forth by the State of Texas. The State requires anyone who is involved in the preparation, storage, or service of food to obtain a Food Handler Card. This certification is a comprehensive solution that delivers consistent food safety training to employees. This ensures the same food safety principles are delivered each and every time.

ServSafe Manager is a food safety program providing high-quality food safety education and training for the restaurant and food service industry. Learn about food borne illness, how to prevent it and how to train employees in food sanitation. The ServSafe Manager exam measures the following content areas: implementing food safety standard operating procedures, ensuring employee hygiene and health, ensuring safe receipt, storage, transportation and disposal of food, ensuring safe preparation, display and service of food and ensuring compliance with regulatory requirements for facilities. There are various options for a teacher to become a certified proctor for the ServSafe Manager program. ServSafe training and certifications are offered at a certified testing location in each of the metropolitan areas of Dallas, Houston, San Antonio, or Austin at the local restaurant association. In addition, there are ServSafe classrooms at any AceMart Restaurant Supply as part of a partnership with AceMart, and ESC's may request training services from the Texas Restaurant Association.

NOTES:

LODGING AND RESORT MANAGEMENT

PROGRAM OF STUDY

The Lodging and Resort Management program of study introduces students to occupations and educational opportunities related to the logistical and operational management of lodging and resorts. This program of study also explores opportunities related to human resources, financial analysis, and marketing.

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

ServSafe Food Handler's Certification; ServSafe Manager Certification; Certified Hospitality and Tourism Management Professional (HTMP) through AHLEI; TABC Certification.

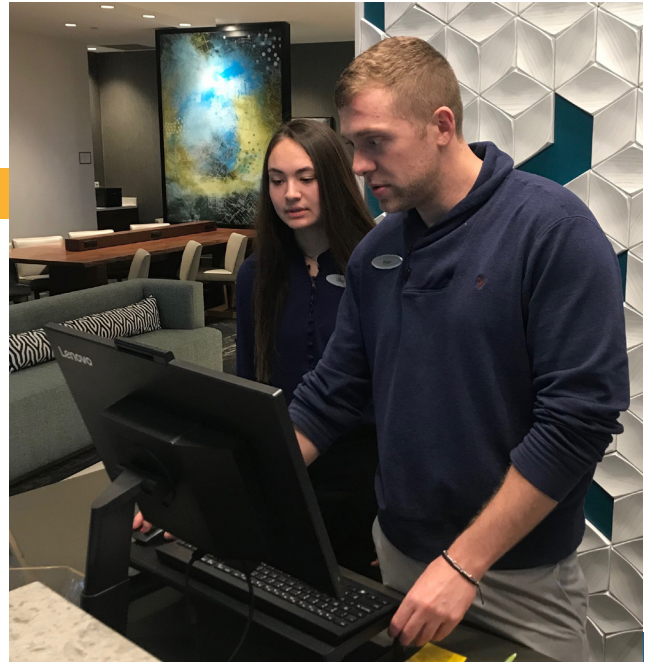
OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
General and Operations Managers	\$107,640	18,679	20%
Lodging Managers	\$48,381	396	19%
Administrative Services Managers	\$96,138	2,277	21%
Meeting, Convention, and Event Planners	\$47,446	1,083	21%

WORK-BASED LEARNING EXPERIENCES

Industry Guest Speakers; Industry Site Visits/Field Trips; On-Site Observations; Industry Partnerships; Internships/Externships.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS

Family, Career and Community Leaders of America (FCCLA); National Technical Honor Society (NTHS)



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Human Services
- 2 LEVEL** Travel and Tourism Management (RHS)
- 3 LEVEL** Hospitality Services (RHS)
- 4 LEVEL** Practicum in Hospitality Services (RHS)

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.



The Hospitality and Tourism Career Cluster focuses on the management, marketing, and operations of restaurants and other food/beverage services, lodging, attractions, recreation events, and travel-related services. Students learn knowledge and skills focusing on communication, time management, and customer service that meet industry standards. Students will explore the history of the hospitality and tourism industry and examine characteristics needed for success.

Non-Discrimination Statement

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LODGING AND RESORT MANAGEMENT

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Lodging and Resort Management program of study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Travel and Tourism Management
- Hospitality Services

Choose additional credits from the following:

- Principles of Human Services or Principles of Business, Marketing and Finance
- Practicum in Hospitality Services
- Introduction to Culinary Arts
- Business Management
- Advertising/Social Media Marketing
- Marketing
- Professional Communications or Entrepreneurship
- Career Preparation
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

The ServSafe Food Handler Certificate verifies basic food safety knowledge and is for individuals in food handler employee-level positions. The certification is nationally recognized through the National Restaurant Association and will benefit students who plan to work in the food industry.

ServSafe Manager is a food safety program providing high-quality food safety education and training for the restaurant and food service industry. Learn about food borne illness, how to prevent it and how to train employees in food sanitation. The ServSafe Manager exam measures the following content areas: implementing food safety standard operating procedures, ensuring employee hygiene and health, ensuring safe receipt, storage, transportation and disposal of food, ensuring safe preparation, display and service of food and ensuring compliance with regulatory requirements for facilities.

The Certified Hospitality and Tourism Management Professional (HTMP) certification recognizes students' knowledge of key hospitality management concepts. To earn the certification, students are expected to complete 100 hours of paid or unpaid work experience in one or more of the following qualifying areas: - Accommodations-hotels, resorts, motels, hostels, vacation rentals, vacation ownership, bed & breakfast properties, recreational vehicles and camping - Food & Beverage-restaurants, full-service, fine dining, quick service, banquet facilities, lounges - Transportation-airlines, cruise lines, rail, car rentals, tour/coach operators, bus lines, taxis - Attractions-theme parks, zoos, national/state/local parks, natural wonders, heritage sites.

NOTES:



HUMAN SERVICES

Recommended Course Sequences

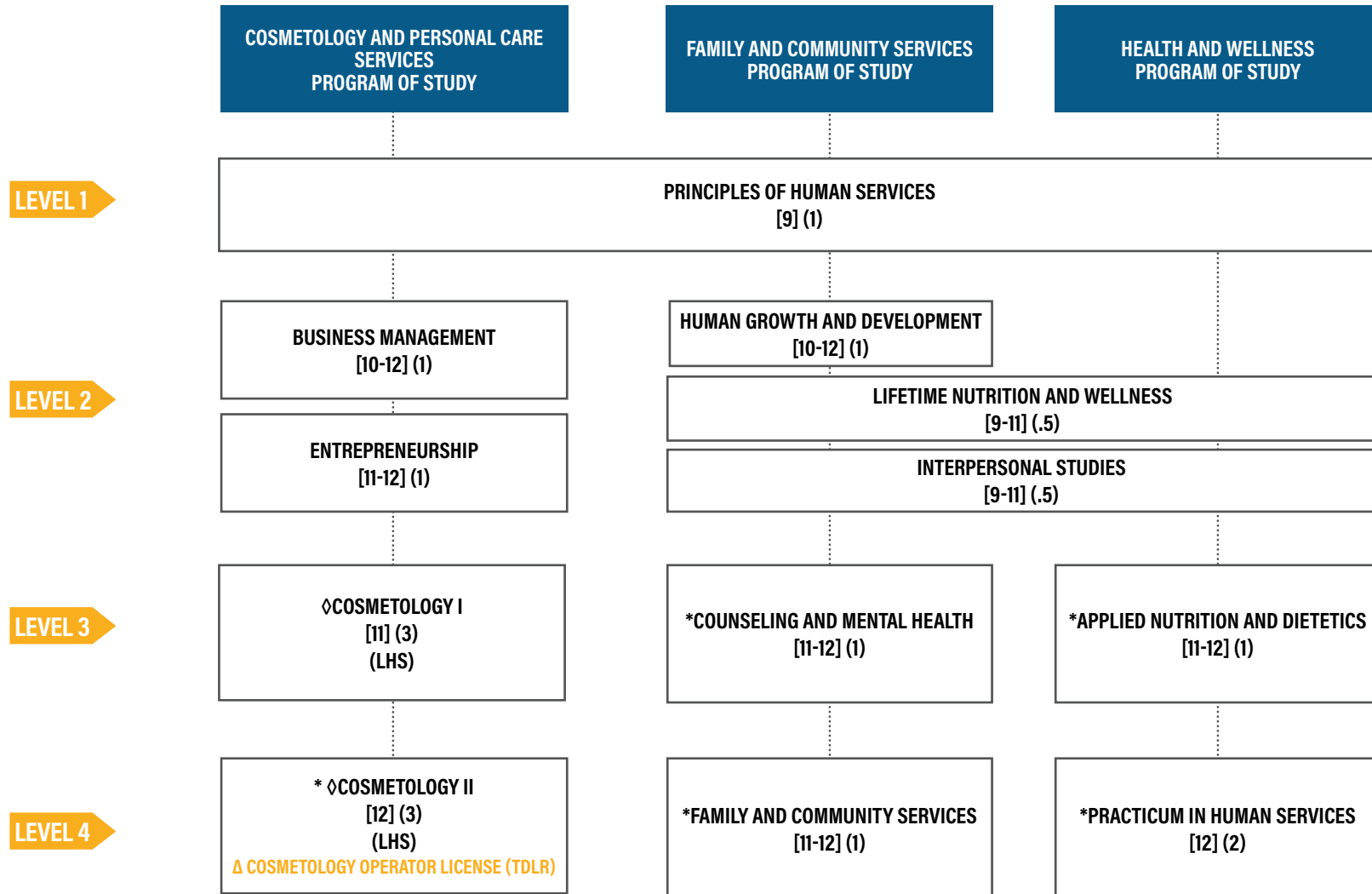
*COURSE HAS A REQUIRED PREREQUISITE

▲ INDUSTRY-BASED CERTIFICATION

[] GRADE LEVEL(S)

() CREDITS

◇ SPECIALIZED PROGRAM



BUSINESS AND INDUSTRY

Note: Refer to course catalog for additional course sequence options, course descriptions, General Human Services option, and endorsement requirements.. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options. Specialized programs located on specific high school campuses are open to all LISD students; check with your campus College and Career Transition Coordinator for details.

HUMAN SERVICES

PUBLIC SERVICE

COSMETOLOGY AND PERSONAL CARE SERVICES

PROGRAM OF STUDY

The Cosmetology and Personal Care Services program of study introduces students to knowledge and skills related to providing beauty and personal care services. Students coordinate integration of academic, career, and technical knowledge and skills in this laboratory instructional program to provide job-specific training for employment in cosmetology careers. Instruction includes sterilization and sanitation procedures, hair care, nail care, and skin care and meets the TDLR requirements for licensure upon passing the state examination. Analysis of career opportunities, license requirements, knowledge and skills expectations, and development of workplace skills are included.

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

Texas Department of Licensing and Regulation
Cosmetology Operator License

Texas Data: Collected by TEA October 2019

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
First-Line Supervisors of Personal Service Workers	\$36,941	1,634	24%
Barbers	\$28,267	348	14%
Hairdressers, Hairstylists and Cosmetologists	\$21,507	3,489	22%
Manicurists and Pedicurists	\$21,715	418	45%
Shampooers	\$18,720	139	24%
Skincare Specialists	\$26,437	637	22%

WORK-BASED LEARNING EXPERIENCES

Authentic Lab-Based Instruction; Industry Guest Speakers; Industry Field Trips; Provide Salon Services to Campus and Community; Community Service Events; District Events; Internships/Externships.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS

SkillsUSA; National Technical Honor Society (NTHS)



The Human Services Career Cluster focuses on preparing individuals for employment in career pathways that relate to families and human needs such as counseling and mental health services, family and community services, personal care services, and consumer services

Non-Discrimination Statement

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RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles Human Services
- 2 LEVEL** Business Management, Entrepreneurship
- 3 LEVEL** Cosmetology I
- 4 LEVEL** Cosmetology II

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

COSMETOLOGY AND PERSONAL CARE SERVICES

PUBLIC SERVICE

A student may earn a Public Service Endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Cosmetology and Personal Care Services program of study are listed below.



6 CREDITS REQUIRED

Required Courses:

- Cosmetology I
- Cosmetology II

Additional recommended courses:

- Principles of Human Services
- Business Management or Entrepreneurship
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

The Cosmetology Operator License examination measures the following content: licensing and regulation, infection control, hair and scalp care, and nail and skin care. Embedded in the Cosmetology Operator exam is the ability to earn the Esthetician and Manicurist licenses.

After completing and passing the written examination, candidates will be eligible to take the practical exam. The following sections make up the practical exam: pre-exam set up and disinfection, manicure service, safety criteria, facial service, chemical services, shampoo service, hair shaping service, permanent waving service, curl demonstration and roller placement, blow drying and thermal curling service and end of exam disinfection.

State Requirements for Written Exam: 100 scored items, 10 non-scored items; 130 minutes; 70 and above is passing.

State Requirements for Practical Exam: Written exam must be passed 1st, 1000 hours completed; 3 hours and 20 minutes hands on exam; 70 and above is passing.

STUDENT SALON SERVICES

Salon Services such as: haircuts, color, perming, mini facials, manicures, & pedicures are offered to the public, LISD employees, and students for a fraction of the cost they are in industry professional salons. Available on B-days from 9 AM to 12 PM depending on service. Call 512-570-1009 or 512-570-1003 or email sheanna.dudley@leanderisd.org for appointments!

NOTES:

HUMAN SERVICES

PUBLIC SERVICE

FAMILY & COMMUNITY SERVICES

PROGRAM OF STUDY

The Family & Community Services program of study introduces students to knowledge and skills related to social services including nutrition, human growth and development, mental health and wellness, and community services. Students may follow career paths in social work, therapy for children, families, or school communities, or within non-profit organizations.

Texas Data: Collected by TEA October 2019

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Child, Family and School Social Workers	\$41,350	2,221	17%
Social and Community Services Managers	\$65,146	608	33%
Marriage and Family Therapists	\$42,266	217	35%
Social and Human Service Assistants	\$32,448	2,822	25%
Mental Health and Substance Abuse and Behavioral Disorder Counselors	\$42,120	576	39%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Human Services
- 2 LEVEL** Human Growth & Development OR Lifetime Nutrition & Wellness/ Interpersonal Studies
- 3 LEVEL** Counseling & Mental Health
- 4 LEVEL** Family and Community Services, Practicum in Human Services

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES	CAREER AND TECHNICAL STUDENT ORGANIZATIONS
Industry Guest Speakers; Site Visits/Field Trips; Industry Mentors; Community Project Opportunities; Internships/Externships.	Family, Career and Community Leaders of American (FCCLA); National Technical Honor Society (NTHS)



The Human Services Career Cluster focuses on preparing individuals for employment in career pathways that relate to families and human needs such as counseling and mental health services, family and community services, personal care services, and consumer services.

Non-Discrimination Statement

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FAMILY & COMMUNITY SERVICES

A student may earn a Public Service Endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Family & Community Services program of study are listed below.



4 CREDITS REQUIRED

Choose 2 credits from the following:

- Human Growth and Development OR Lifetime Nutrition and Wellness/ Interpersonal Studies
- Counseling and Mental Health
- Family and Community Services

Choose additional credits, if needed, from the following:

- Principles of Human Services or Principles of Education or Principles of Health Science or Principles of Law
- Practicum in Law, Public Safety, Corrections and Security
- Practicum of Human Services
- Entrepreneurship
- Career Preparation
- Project-Based Research

NOTES:

HEALTH AND WELLNESS

PROGRAM OF STUDY

The Health and Wellness program of study introduces students to knowledge and skills related to promoting physical, emotional, social, and mental health and wellness. Students who choose this program of study may learn how to assist patients in planning for their health and wellness, respond to crises, and advise, provide education or counseling, or make referrals. Students may also focus on addressing barriers to access health and wellness services.

Texas Data: Collected by TEA October 2019

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Community Health Workers	\$38,064	592	25%
Rehabilitation Counselors	\$43,930	586	23%
Mental Health Counselors	\$41,558	812	38%
Health Care Social Workers	\$55,515	1,583	35%
Dietitians and Nutritionists	\$57,762	428	24%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Human Services
- 2 LEVEL** Lifetime Nutrition & Wellness/ Interpersonal Studies
- 3 LEVEL** Applied Nutrition and Dietetics
- 4 LEVEL** Practicum in Human Services

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES	CAREER AND TECHNICAL STUDENT ORGANIZATIONS
Industry Guest Speakers; Site Visits/Field Trips; Industry Mentors; Community Project Opportunities; Internships/Externships.	Family, Career and Community Leaders of American (FCCLA); National Technical Honor Society (NTHS)



The Human Services Career Cluster focuses on preparing individuals for employment in career pathways that relate to families and human needs such as counseling and mental health services, family and community services, personal care services, and consumer services.

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HEALTH AND WELLNESS

PUBLIC SERVICE

A student may earn a Public Service Endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Health and Wellness program of study are listed below.



4 CREDITS REQUIRED

Required Credits:

- Lifetime Nutrition and Wellness/ Interpersonal Studies
- Applied Nutrition and Dietetics

Choose additional credits, if needed, from the following:

- Principles of Human Services
- Principles of Health Science
- Human Growth and Development
- Kinesiology I
- Family and Community Services
- Counseling and Mental Health
- Practicum of Human Services
- Introduction to Culinary Arts or Entrepreneurship
- Career Preparation
- Project-Based Research

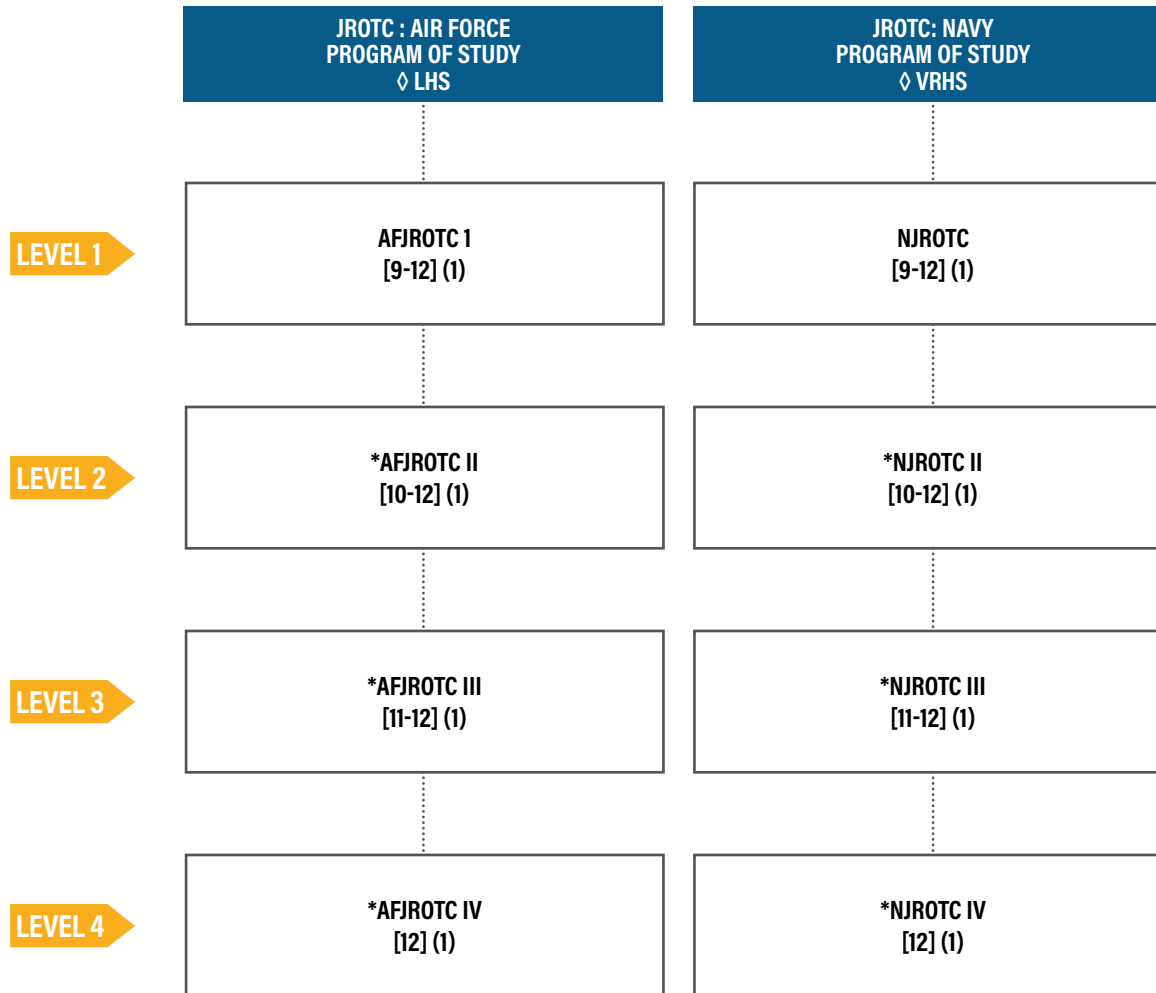
NOTES:



JUNIOR RESERVE OFFICERS' TRAINING CORPS

Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE
 ▲ INDUSTRY-BASED CERTIFICATION
 [] GRADE LEVEL(S)
 () CREDITS
 ◇ SPECIALIZED PROGRAM



PUBLIC SERVICE

Note: Refer to course catalog for additional course sequence options, course descriptions and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options. Specialized programs located on specific high school campuses are open to all LISD students; check with your campus College and Career Transition Coordinator for details.

PUBLIC SERVICE

AIR FORCE JUNIOR RESERVE OFFICER TRAINING CORPS

PROGRAM OF STUDY

AFJROTC provides citizenship training and an aerospace science program for high school students. Secondary school students who enroll in the AFJROTC program are offered a wide variety of curricular and co-curricular activities. The program explores the historic and scientific aspects of aerospace technology and teaches high school students self-reliance, self-discipline, and other leadership characteristics. By Title 10 United States Code, the program is a citizenship program and not chartered as a recruiting program for the military services and those students who participate in AFJROTC do not incur any obligation to the Air Force. AFJROTC objectives are to educate and train high school cadets in citizenship and life skills; promote community service; instill a sense of responsibility; and develop character, leadership, and self-discipline through education and instruction in air and space fundamentals and the Air Force's core values of integrity first, service before self and excellence in all we do. The course includes at least one day per week of physical fitness training. All students are expected to wear a uniform and conform to military grooming standards (hair and jewelry).

CAREER OPPORTUNITIES

Qualified students desiring a military career may earn advanced promotion upon initial enlistment in the service, nomination to a Service Academy, or ROTC scholarship opportunities.

WORK-BASED LEARNING AND /SERVICE-BASED LEARNING EXPERIENCES

- Leadership: Students will have many leadership opportunities as most AFJROTC activities are student led to the maximum extent possible.
- Co-Curricular Activities: Drill Team, ColorGuard, Physical Fitness Competition Team, Model Rocketry, Quadcopter Team, and Marksmanship team.
- Field Trips: At least one per academic year, usually to a military installation.
- Guest Speakers: Typically active duty speakers and recruiters as well as National Guard speakers and recruiters.
- Community Service: Community service projects are part of the curriculum and these provide good leadership opportunities to cadets in the program.

STUDENT ORGANIZATIONS AND LEADERSHIP OPPORTUNITIES

- Kitty Hawk AFJROTC Honor Society;
National Technical Honor Society (NTHS)
- Cadet Corps Staff Positions (Corps Commander, Squadron Commander, Flight Commander, Flight Sergeant)
 - Color Guard Commander
 - Drill Team Commander
 - Leander High School Flag Detail

Non-Discrimination Statement

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RECOMMENDED COURSE SEQUENCE

- 1 LEVEL AFJROTC I (LHS)
- 2 LEVEL AFJROTC II (LHS)
- 3 LEVEL AFJROTC III (LHS)
- 4 LEVEL AFJROTC IV (LHS)

NOTE: Course descriptions and details can be found in the course catalog.

ENDORSEMENT

A student may earn a Public Service Endorsement by completing foundation and general endorsement requirements as well as completion of the AFJROTC Program of Study requirements listed below.

4 CREDITS REQUIRED

Choose 4 credits from Air Force JROTC (LHS):

- AFJROTC I (LHS)
- AFJROTC II (LHS)
- AFJROTC III (LHS)
- AFJROTC IV (LHS)



PUBLIC SERVICE

NAVY JUNIOR RESERVE OFFICER TRAINING CORPS

PROGRAM MISSION

The Navy JROTC mission is to instill in students in United States secondary educational institutions the values of citizenship, service to the United States, personal responsibility and a sense of accomplishment.

CAREER OPPORTUNITIES

- Cadets accepted for enlistment, who provide evidence of successful completion of at least 3 years of NJROTC are entitled to advanced promotion to pay grade E-3 upon initial enlistment in an active or reserve component of the Navy, or Air Force, and pay grade E-2 in the Army or Marine Corps; or completion of 2 years are entitled to E-2 in the Navy.
- Senior Naval Science Instructor is authorized to nominate a maximum of three eligible cadets each year to compete for U.S. Naval Academy appointments.
- Administrators of host schools that are designated as Distinguished Units with Academic Honors may nominate three eligible NJROTC cadets as candidates for appointment to the U.S. Naval Academy, U.S. Military Academy, and U.S. Air Force Academy in addition to the three nominations above to the U.S. Naval Academy.

WORK-BASED LEARNING AND SERVICE-BASED LEARNING EXPERIENCES

The NJROTC accredited curriculum emphasizes citizenship and leadership development, as well as our maritime heritage, the significance of sea power, and naval topics such as the fundamentals of naval operations, seamanship, navigation and meteorology. Classroom instruction is augmented throughout the year by extra-curricular activities of community service, academic, athletic, drill and orienteering competitions, field meets, guest speakers, visits to naval or other activities, marksmanship sports training, STEM activities including Sea Perch and Cyberpatriot, and physical fitness training.

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RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** NJROTC I (VRHS)
- 2 LEVEL** NJROTC II (VRHS)
- 3 LEVEL** NJROTC III (VRHS)
- 4 LEVEL** NJROTC IV (VRHS)

NOTE: Course descriptions and details can be found in the course catalog.

ENDORSEMENT

A student may earn a Public Service Endorsement by completing foundation and general endorsement requirements as well as completion of the NJROTC Program of Study requirements listed below.

4 CREDITS REQUIRED

Choose 4 credits from Navy JROTC (VRHS):

- NJROTC I (VRHS)
- NJROTC II (VRHS)
- NJROTC III (VRHS)
- NJROTC IV (VRHS)





LANGUAGES OTHER THAN ENGLISH

Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE
 ▲ INDUSTRY-BASED CERTIFICATION
 [] GRADE LEVEL(S)
 () CREDITS

LANGUAGES OTHER THAN ENGLISH PROGRAM OF STUDY

LEVEL 1



LEVEL 2



LEVEL 3



LEVEL 4



ARTS AND HUMANITIES

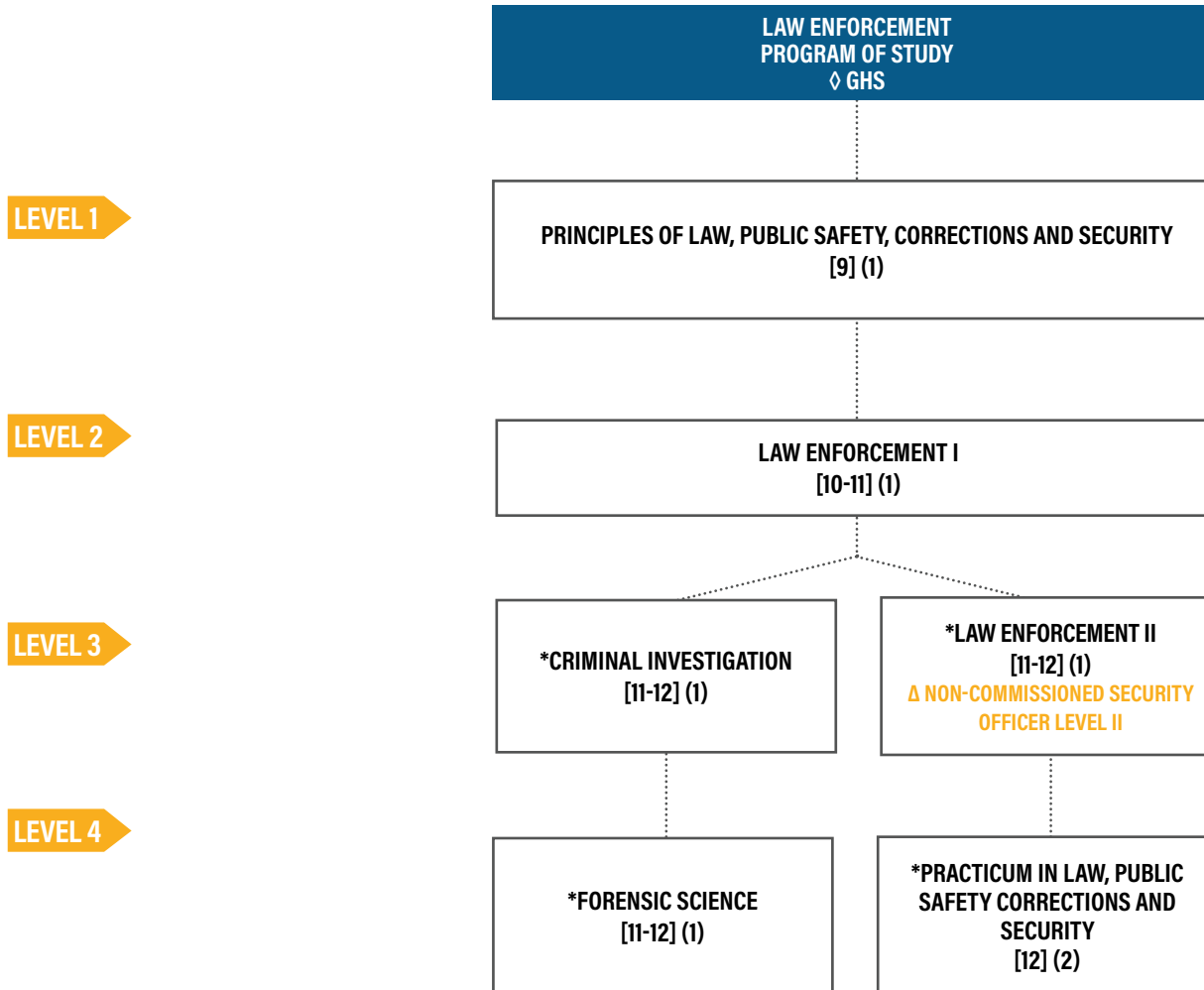
Note: World Language course offerings may vary on campuses depending on availability. Refer to course catalog for additional course sequence options, course descriptions and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options.



LAW AND PUBLIC SERVICE

Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE
▲ INDUSTRY-BASED CERTIFICATION
[] GRADE LEVEL(S)
() CREDITS
◇ SPECIALIZED PROGRAM



PUBLIC SERVICE

Note: Refer to course catalog for additional course sequence options, course descriptions and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options. Specialized programs located on specific high school campuses are open to all LISD students; check with your campus College and Career Transition Coordinator for details.

LAW ENFORCEMENT

PROGRAM OF STUDY

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

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

Security Officer Level II Certification

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Police and Sheriff's Patrol Officers	\$60,112	5,241	13%
Probation Officers and Correctional Treatment Officers	\$44,054	793	9%
Correctional Officers and Jailers	\$40,186	4,683	9%
Immigration and Customs Inspectors	\$78,104	1,236	9%
First-Line Supervisors of Police and Detectives	\$91,312	253	25%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Law, Public Safety, Corrections, and Security
- 2 LEVEL** Law Enforcement I
- 3 LEVEL** Law Enforcement II, Criminal Investigation
- 4 LEVEL** Forensic Science, Practicum in Law, Public Safety, Corrections and Security: Law Enforcement

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES

Industry Guest Speakers/Panels; Industry Site Visits/Field Trips; Community Service; Internships/Externships.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS

SkillsUSA; National Technical Honor Society (NTHS)



The Law and Public Service Career Cluster focuses on planning, managing, and providing legal services, public safety, and homeland security, including professional and technical support services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services.

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LAW ENFORCEMENT

PUBLIC SERVICE

A student may earn a Public Service Endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Law Enforcement program of study are listed below.



4 CREDITS REQUIRED

Choose 2 credits from the following:

- Law Enforcement I
- Law Enforcement II
- Criminal Investigations
- Forensic Science

Choose additional credits, if needed, from the following:

- Principles of Law, Public Safety, Corrections and Security
- Practicum in Law, Public Safety, Corrections and Security
- Counseling and Mental Health
- Human Growth and Development
- Lifetime Nutrition and Wellness/ Interpersonal Studies
- Professional Communications
- Career Preparation
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

Security Level II is designed to provide participants with the concepts and skills necessary of a non-commissioned security officer in the State of Texas. The course delivers Texas Private Security Bureau approved curriculum which includes roles and responsibilities of security officers, legal aspects of security work, communications, and response to emergencies and safety hazards. The benefits of this certification include finding immediate work in the security industry while gaining valuable experience in the Criminal Justice field in preparation for a career as a local, state, or federal peace officer. Senior students that are 18 years of age or will turn 18 by the end of the school year are eligible for this certification.

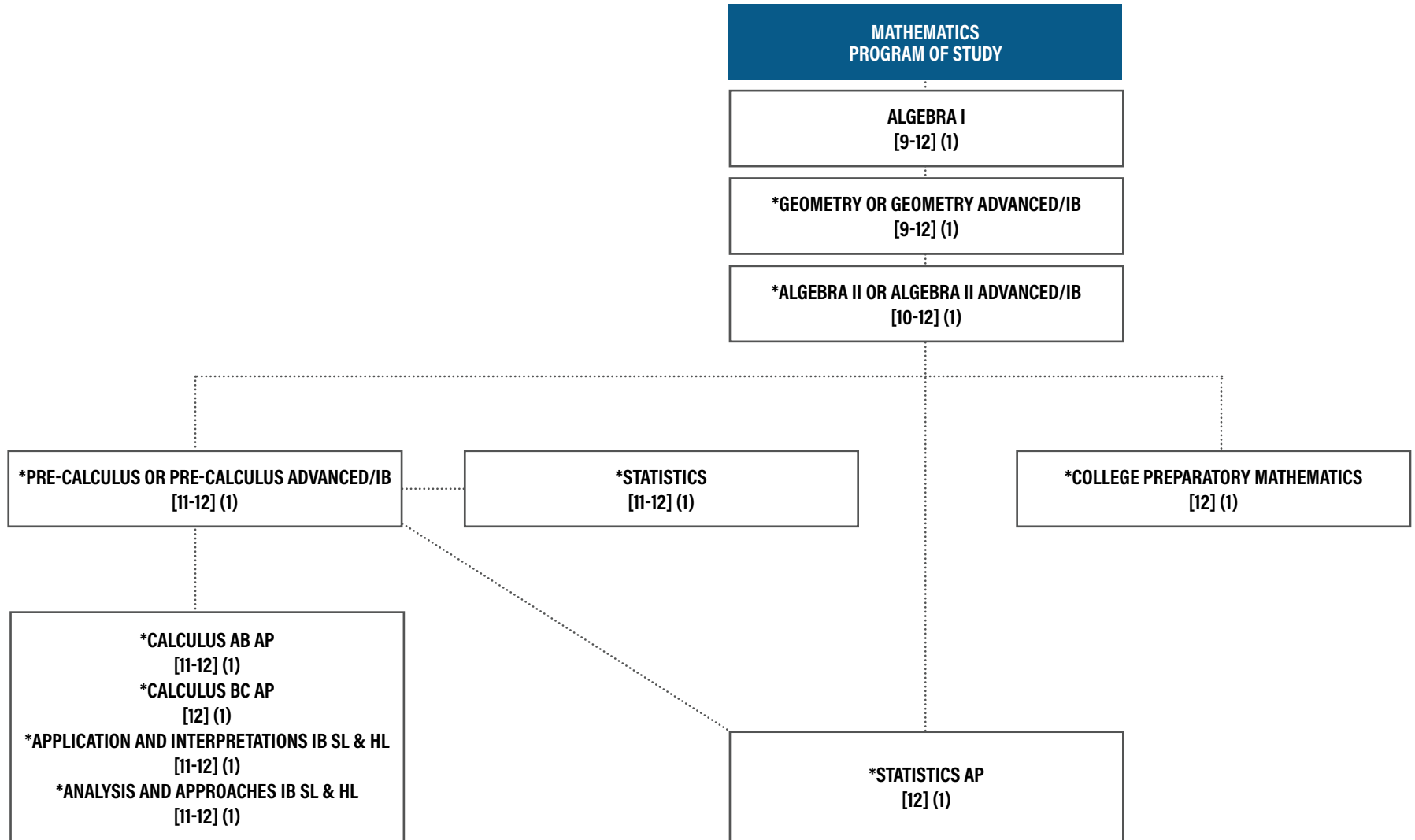
NOTES:



MATH

Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE
▲ INDUSTRY-BASED CERTIFICATION
[] GRADE LEVEL(S)
() CREDITS



STEM

Note: Refer to course catalog for additional course sequence options, course descriptions and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options.



SCIENCE

Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE
▲ INDUSTRY-BASED CERTIFICATION
[] GRADE LEVEL(S)
() CREDITS

SCIENCE PROGRAM OF STUDY

LEVEL 1

BIOLOGY
[9-12] (1)

LEVEL 2

*CHEMISTRY OR CHEMISTRY ADVANCED/IB
[10-12] (1)

INTEGRATED PHYSICS AND CHEMISTRY (IPC)
[10-12] (1)

*PHYSICS OR
PHYSICS 1 AP
[10-12] (1)

LEVEL 3

*ENVIRONMENTAL SYSTEMS OR ENVIRONMENTAL SYSTEMS AP
[11-12] (1)

-OR-

*BIOLOGY AP OR BIOLOGY IB SL
[11-12] (1)

-OR-

*CHEMISTRY AP OR CHEMISTRY IB SL
[11-12] (1)

-OR-

*PHYSICS IB SL OR PHYSICS II AP
[11-12] (1)

LEVEL 4

*PHYSICS C AP OR PHYSICS IB HL
[12] (1)

* BIOLOGY IB HL
[12] (1)

* CHEMISTRY IB HL
[12] (1)

STEM

Note: Refer to course catalog for additional course sequence options, course descriptions and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options.



SOCIAL STUDIES

Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE
 ▲ INDUSTRY-BASED CERTIFICATION
 [] GRADE LEVEL(S)
 () CREDITS

SOCIAL STUDIES PROGRAM OF STUDY

LEVEL 1

WORLD GEOGRAPHY [9-12] (1)	-OR-	HUMAN GEOGRAPHY AP [9-12] (1)
WORLD HISTORY [10-12] (1)	-OR-	*WORLD HISTORY AP [10-12] (1)
AN AMERICAN EXPERIENCE [9-12] (1)		

LEVEL 2

INVESTIGATIONS IN PSYCHOLOGY [10-12] (.5)	-OR-	*PSYCHOLOGY AP [10-12] (.5)
PSYCHOLOGY [10-12] (.5)	-AND/OR-	SOCIOLOGY [10-12] (.5)
INFLUENCE OF THE OLD TESTAMENT BIBLE [10-12] (.5)	-AND/OR-	INFLUENCES OF THE NEW TESTAMENT BIBLE [10-12] (.5)

LEVEL 3

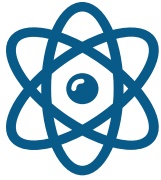
U.S. HISTORY [11-12] (1)	-OR-	U.S. HISTORY AP [11-12] (1)
HISTORY OF THE AMERICAS IB HL 1 [11-12] (1)		
EUROPEAN HISTORY AP [11-12] (1)		
PSYCHOLOGY IB SL [11-12] (1)		

LEVEL 4

GOVERNMENT [12] (.5)	-OR-	U.S. GOVERNMENT AP [12] (.5)
		MACROECONOMICS AP [12] (.5)
ECONOMICS [12] (.5)	-OR-	MICROECONOMICS AP [12] (.5)
*HISTORY OF THE AMERICAS IB HL 2 [11-12] (1)		
*PSYCHOLOGY IB HL [11-12] (1)		

ARTS AND HUMANITIES

Note: Refer to course catalog for additional course sequence options, course descriptions and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options.



STEM Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE

▲ INDUSTRY-BASED CERTIFICATION

[] GRADE LEVEL(S)

() CREDITS

◇ SPECIALIZED PROGRAM

	BIOMEDICAL SCIENCE (PLTW) PROGRAM OF STUDY	CYBERSECURITY PROGRAM OF STUDY	ENGINEERING PLTW PROGRAM OF STUDY	PROGRAMMING AND SOFTWARE DEVELOPMENT: COMPUTER SCIENCE STUDIES PROGRAM OF STUDY	PROGRAMMING AND SOFTWARE DEVELOPMENT: APP DEVELOPMENT PROGRAM OF STUDY MOBILEMAKERSDU
LEVEL 1	PRINCIPLES OF BIOMEDICAL SCIENCE [9-11] (1)	COMPUTER SCIENCE PRINCIPLES AP [9-12] (1)	INTRODUCTION TO ENGINEERING DESIGN [9-11] (1)	FUNDAMENTALS OF COMPUTER SCIENCE WITH ROBOTICS [8] (1) COMPUTER SCIENCE PRINCIPLES AP [9-12] (1)	
LEVEL 2	*HUMAN BODY SYSTEMS [10-12] (1)	COMPUTER SCIENCE I ADVANCED/ IB [9-12] (1)	*AEROSPACE ENGINEERING [10-12] (1) *DIGITAL ELECTRONICS [10-12] (1)	COMPUTER SCIENCE I ADVANCED/IB [9-12] (1)	
LEVEL 3	*MEDICAL MICROBIOLOGY [11-12] (1) *MEDICAL INTERVENTIONS [11-12] (1) ▲ BACE	*DIGITAL FORENSICS [10-12] (1)	*ENGINEERING SCIENCE [11-12] (1) ◇*COMPUTER INTEGRATED MANUFACTURING [10-12] (1) (RHS)	*COMPUTER SCIENCE A AP [10-12] (1) COMPUTER SCIENCE IB SL [11-12] (1)	◇MOBILE APPLICATION DEVELOPMENT: MOBILEMAKERSDU [11-12] (1) (CPHS, RHS)
LEVEL 4	*PRACTICUM IN STEM:BIOMEDICAL SCIENCE [12] (2) -OR- *SCIENTIFIC RESEARCH AND DESIGN [11-12] (1)	*CYBERSECURITY CAPSTONE [11-12] (1)	*SCIENTIFIC RESEARCH AND DESIGN [11-12] (1) *PRACTICUM IN STEM: ENGINEERING [12] (2)	*DIGITAL FORENSICS [10-12] (1) *COMPUTER SCIENCE III [11-12] (1) COMPUTER SCIENCE IB HL [12] (1) *PRACTICUM IN STEM: COMPUTER SCIENCE STUDIES [12] (2)	* ◇PRACTICUM IN STEM: MOBILEMAKERSSTUDIO [12] (2) (CPHS, RHS)

STEM

Students who do not complete additional STEM endorsement requirements of Algebra II, Chemistry, and Physics, but earn four credits in a Computer Science Program of Study are eligible to earn a Business and Industry endorsement. Note: Refer to course catalog for additional course sequence options, course descriptions, General STEM Studies Program of Study option, and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options.

STEM

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH

BIOMEDICAL SCIENCE

PROGRAM OF STUDY

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

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

Biotechnician Assistant Certification (BACE)

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Medical and Laboratory Technicians	\$37,981	1,159	28%
Biological Technicians	\$42,931	452	17%
Forensic Science Technicians	\$48,152	171	35%
Chemical Technicians	\$49,733	672	10%
Medical and Clinical Laboratory Technologists	\$58,760	1,166	25%

Additional Career Opportunities: Medical Laboratory Assistant; Histologic Technician Molecular Biology; Genetic Counseling; Biomedical Engineers; Medical Scientist; Clinical Laboratory Science; Epidemiology.

WORK-BASED LEARNING EXPERIENCES

Industry Guest Speakers/Panels; Medical Facility and Lab Tours; Industry Observations/Internships/Externships.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS

Health Occupations Students of America (HOSA); iGEM; National Technical Honor Society (NTHS)



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Principles of Biomedical Science
- 2 LEVEL** Human Body Systems
- 3 LEVEL** Medical Interventions, Medical Microbiology
- 4 LEVEL** Practicum in STEM: Biomedical Science, Scientific Research and Design

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.



The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

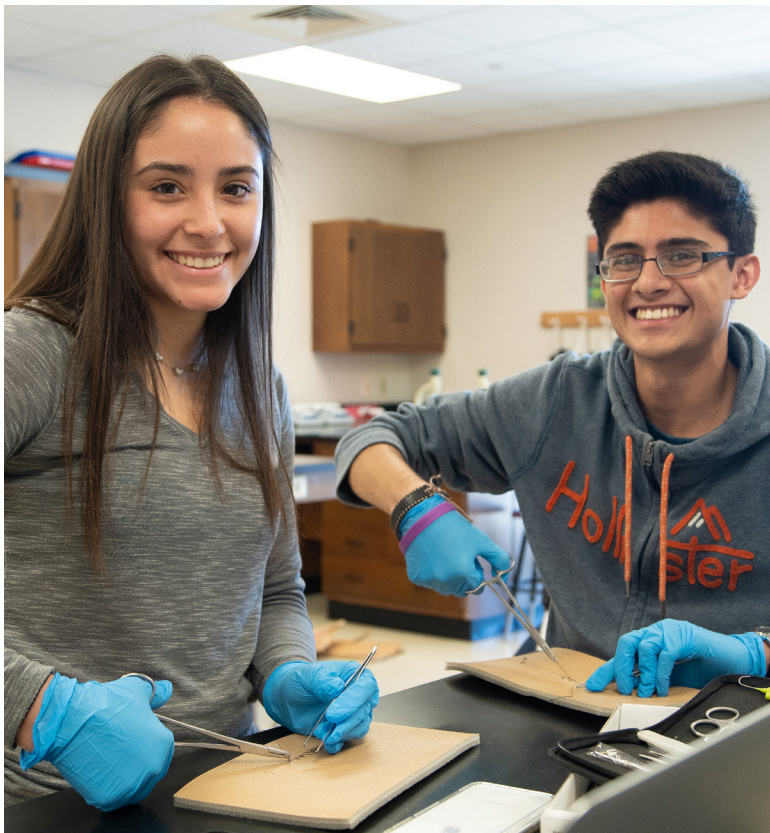
Non-Discrimination Statement

It is the policy of Leander ISD not to discriminate on the basis of race, color, national origin, sex or handicap in its Career and Technology Education Programs, services, or activities. Leander ISD will take steps to assure that lack of English language skills will not be a barrier to admission and participation in all educational and vocational programs. Es norma de Leander ISD de no discriminar por motivos de raza, color, origen nacional, sexo o impedimento, en sus programas, servicios o actividades vocacionales. Leander ISD tomará las medidas necesarias para asegurar que la falta de habilidad en el uso de la lengua inglés no sea un obstáculo para la admisión o participación en todos los programas educativos y vocacionales.

BIOMEDICAL SCIENCE

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH

A student may earn a STEM endorsement by completing foundation and general endorsement requirements including Algebra II, Chemistry and Physics. Endorsement course options for the Biomedical Science Program of Study are listed below.



7 CREDITS REQUIRED

Required Courses:

- Algebra II
- Chemistry
- Physics

Choose at least 2 credits from the following:

- Principles of Biomedical Science (PLTW)
- Human Body Systems (PLTW)
- Medical Interventions (PLTW)

Choose additional credits from the following:

- Practicum in STEM: Biomedical Science
- Anatomy and Physiology
- Medical Microbiology
- Principles of Health Science
- Medical Terminology
- Professional Communications
- Career Preparation
- Scientific Research and Design

NOTE: Students who do not complete Algebra II, Chemistry and Physics, but earn four credits in the Biomedical Science Program of Study, are eligible to earn a Public Service endorsement.

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

The Biotechnician Assistant Credentialing Exam (BACE) is an industry-recognized exam designed to assess core skills and knowledge sets identified by industry, and represented within the academic and performance standards of Biotechnology programs. The exam was originally vetted by the state of Florida's industry organization, BioFlorida, which represents more than 3,000 companies and research organizations in the biotechnology, pharmaceuticals, medical devices, and bioagriculture sectors. Since its creation, BACE has been assessed by national and international companies as other states adopt the exam.

NOTES:

STEM

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH

CYBERSECURITY

PROGRAM OF STUDY

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

Texas Data: Collected by TEA October 2019

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Information Security Analysts	\$91,915	814	29%
Network and Computer System Administrators	\$82,597	2,814	19%
Computer System Analysts	\$87,568	5,937	29%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Computer Science Principles AP
- 2 LEVEL** Computer Science I Advanced/IB
- 3 LEVEL** Digital Forensics
- 4 LEVEL** Cybersecurity Capstone

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES	EXTRA-CURRICULAR STUDENT EXPERIENCES
Industry Site Visits/Field Trips; Industry Guest Speakers; Simulations	UIL; National Technology Honor Society (NTHS); Computer Science Club; Robotics



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CYBERSECURITY

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH

A student may earn a STEM endorsement by completing foundation and general endorsement requirements including Algebra II, Chemistry and Physics. Endorsement course options for the Cybersecurity Program of Study are listed below.



7 CREDITS REQUIRED

Required Courses (check prerequisites):

- Algebra II
- Chemistry
- Physics

Choose 4 additional credits from the following:

- Fundamental of Computer Science
- Computer Science Principles AP
- Computer Science I Advanced
- Computer Science A AP
- Computer Science IB HL
- Computer Science IB SL
- Computer Science III
- Digital Forensics
- Mobile Application Development
- Practicum in STEM
- Independent Study in Technology Applications

NOTE: Students who do not complete Algebra II, Chemistry and Physics, but earn four credits in the Programming and Software Development Program of Study, are eligible to earn a Business and Industry Endorsement.

NOTES:

STEM

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM)

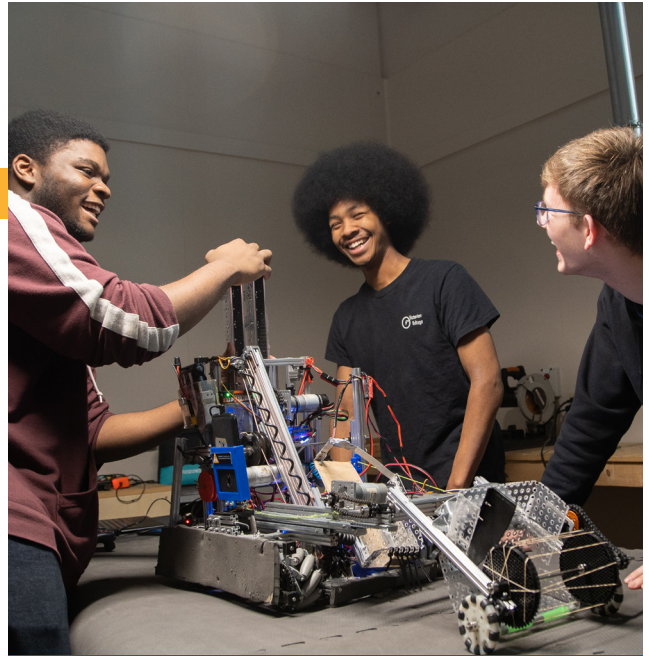
ENGINEERING-PLTW

PROGRAM OF STUDY

The Engineering program of study focuses on the application of science, mathematical methods, and design thinking to solve real-world problems. Areas of focus include technical communication, 3D CAD modeling, technical drawings and schematics, automation, mechanisms, structural analysis and design, material testing, circuit design, combinational and sequential logic, physics of flight, orbital mechanics, technical specifications, documentation and presentations.

Texas Data: Collected by TEA October 2019

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Aerospace Engineers	\$110,843	481	9%
Industrial Engineers	\$97,074	1,263	10%
Mechanical Engineers	\$91,707	1,535	11%
Chemical Engineers	\$112,819	474	9%
Electrical Engineers	\$98,405	1,137	10%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Introduction to Engineering Design
- 2 LEVEL** Aerospace Engineering, Digital Electronics
- 3 LEVEL** Engineering Science, Computer Integrated Manufacturing (RHS)
- 4 LEVEL** Practicum in STEM: Engineering, Scientific Research and Design

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES	CAREER AND TECHNICAL STUDENT ORGANIZATIONS
Guest Speakers; Campus Service; Project-based Learning; COOL Experiences	FIRST Robotics; SkillsUSA; BEST; TSA; NTHS; CyberPatriots; Women in STEM



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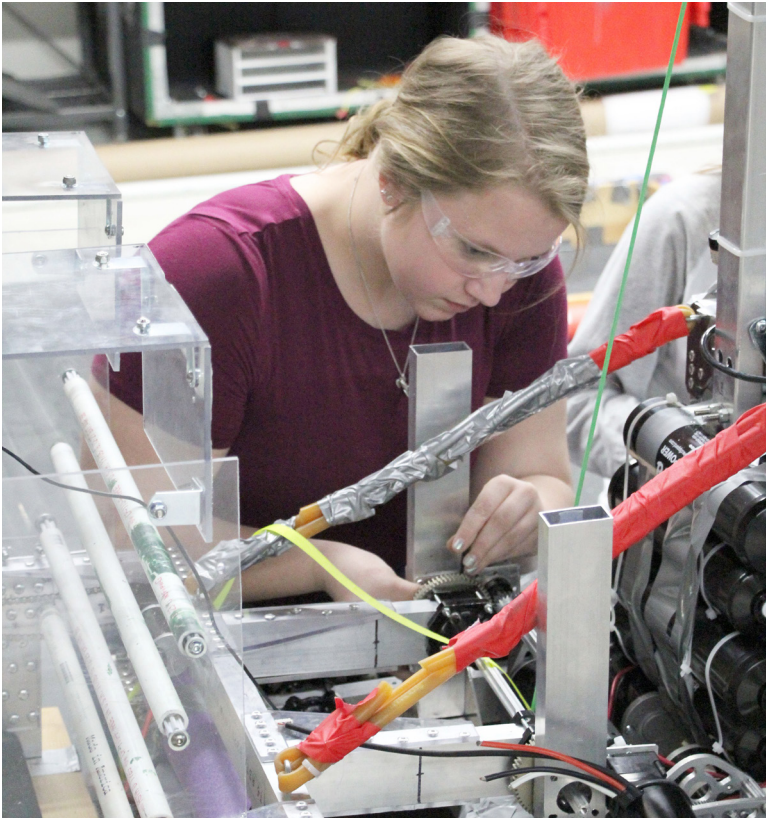
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ENGINEERING (PLTW)

SCIENCE, TECHNOLOGY, ENGINEERING
AND MATHEMATICS (STEM)

A student may earn a STEM endorsement by completing foundation and general endorsement requirements including Algebra II, Chemistry and Physics. Endorsement course options for the Engineering program of study are listed below.



7 CREDITS REQUIRED

Required Courses:

- Algebra II
- Chemistry
- Physics
- Introduction to Engineering Design
- Engineering Science

Choose at least 1 additional credit from the following:

- Aerospace Engineering
- Digital Electronics
- Computer Integrated Manufacturing (RHS)
- Practicum in STEM: Engineering
- Scientific Research and Design

Choose additional credit, if needed, from the following:

- Electrical Technology (LHS)
- Architectural Design I
- Principles of Construction (GHS, LHS)
- Agriculture Mechanics and Metal Technologies
- Professional Communications
- Career Preparation

NOTE: Students who do not complete Algebra II, Chemistry and Physics, but earn four credits in the Engineering Program of Study, are eligible to earn a Business and Industry Endorsement.

INDUSTRY-BASED CERTIFICATION | CERTIFICATION COURSE ALIGNMENT | CERTIFICATION DESCRIPTION

***SolidProfessor** may be an option for students to prepare for the Inventor Certification Exam. SolidProfessor is free through a recent partnership with PLTW. Students will need their my.pltw.org account login information.

Autodesk Certified Professional or User (ACU) – Inventor

An Autodesk Inventor Certified User certification demonstrates entry-level knowledge that includes creating, modifying, formatting, and sharing 2D sketches, creating parts, viewing and animating assemblies, and creating presentations and drawings.

The Autodesk Certified Professional certification assesses professional users' knowledge of the tools, features, and common tasks of AutoCAD. Earners of this certification have demonstrated knowledge of dimensioning, basic drawing skills, using hatching and gradients, and more.

For additional information, please visit the following link:
<https://certiport.pearsonvue.com/Certifications/Autodesk/Certifications/Certify>

NOTES:

STEM

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH

PROGRAMMING AND SOFTWARE DEVELOPMENT: COMPUTER SCIENCE STUDIES

PROGRAM OF STUDY

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

Texas Data: Collected by TEA October 2019

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Software Developer, Systems Software	\$103,334	2,985	25%
Software Developers, Application	\$104,499	6,311	30%
Computer Programmers	\$79,893	1,454	9%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Computer Science Principles AP
- 2 LEVEL** Computer Science I Advanced
- 3 LEVEL** Computer Science A AP, Computer Science IB SL
- 4 LEVEL** Computer Science III, Digital Forensics, Computer Science IB HL, Practicum in STEM: Computer Science Studies

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES	CAREER AND TECHNICAL STUDENT ORGANIZATIONS
Industry Site Visits/Field Trips; Industry Guest Speakers; Internships/Externships.	UIL; National Technology Honor Society (NTHS); Computer Science Club; Robotics.



The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing scientific research and professional and technical services, including laboratory and testing services, and research and development services.

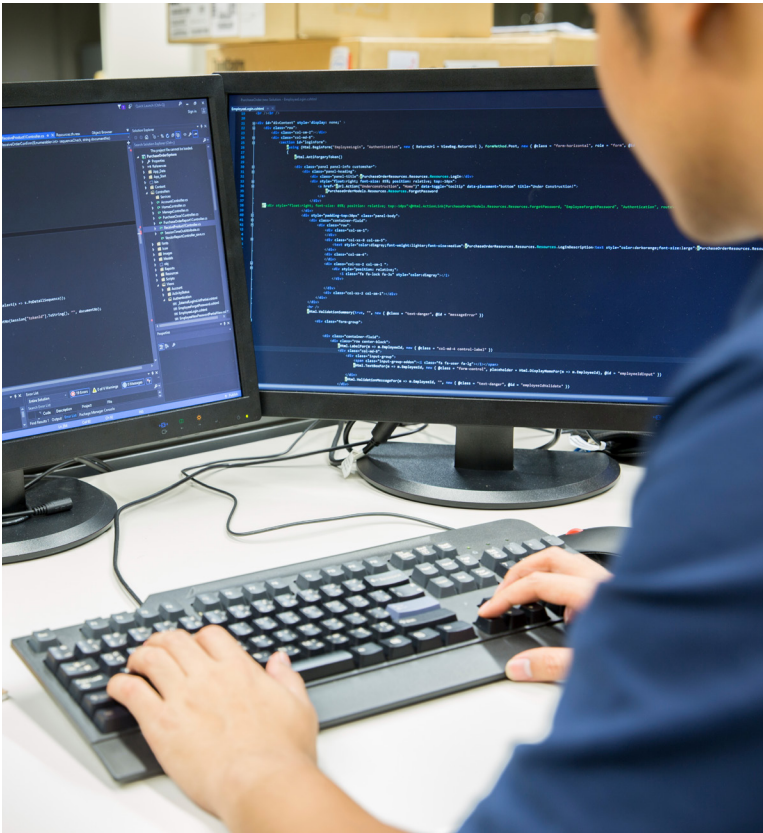
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PROGRAMMING AND SOFTWARE DEVELOPMENT: COMPUTER SCIENCE STUDIES

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH

A student may earn a STEM endorsement by completing foundation and general endorsement requirements including Algebra II, Chemistry and Physics. Endorsement course options for the Computer Science Studies Program of Study are listed below.



7 CREDITS REQUIRED

Required Courses (check prerequisites):

- Algebra II
- Chemistry
- Physics

Choose 4 additional credits from the following:

- Fundamental of Computer Science
- Computer Science Principles AP
- Computer Science I Advanced
- Computer Science A AP
- Computer Science IB HL
- Computer Science IB SL
- Computer Science III
- Digital Forensics
- Mobile Application Development
- Practicum in STEM
- Independent Study in Technology Applications

NOTE: Students who do not complete Algebra II, Chemistry and Physics, but earn four credits in the Programming and Software Development Program of Study, are eligible to earn a Business and Industry Endorsement.

NOTES:

STEM

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH

PROGRAMMING AND SOFTWARE DEVELOPMENT: APP DEVELOPMENT

(MOBILEMAKERSEDU)

PROGRAM OF STUDY

Through the Programming and Software Development: App Development (MobileMakersEdu) program of study students learn coding and design skills to bring mobile app ideas to life. During this process students build working apps for Apple’s mobile devices using the language and tools of professionals – Swift and Xcode.

Texas Data: Collected by TEA October 2019

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Software Developer, Systems Software	\$103,334	2,985	25%
Software Developers, Applications	\$104,499	6,311	30%
Computer Programmers	\$79,893	1,454	9%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Computer Science Principles AP
- 2 LEVEL** Computer Science I Advanced/IB
- 3 LEVEL** Mobile Application Development: MobileMakersEdu
- 4 LEVEL** Practicum in STEM: MobileMakersStudio

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES

Learn in Dev-Shop Environment; Industry Guest Speakers/Panels; Industry Developer Mentors; Job Shadows; Internships; Industry and Post Secondary Education Site Visits/ Field Trips; Industry/Community App Development; Meet The Maker Event

CAREER AND TECHNICAL STUDENT ORGANIZATIONS

UIL; National Technology Honor Society (NTHS); DECA; Science Fair



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PROGRAMMING AND SOFTWARE DEVELOPMENT: APP DEVELOPMENT

(MOBILEMAKERSEDU)

SCIENCE, TECHNOLOGY,
ENGINEERING, AND MATH

A student may earn a STEM endorsement by completing foundation and general endorsement requirements including Algebra II, Chemistry and Physics. Endorsement course options for the App Development Program of Study are listed below.



7 CREDITS REQUIRED

Required Courses (check prerequisites):

- Algebra II
- Chemistry
- Physics

Choose 4 additional credits from the following:

- Fundamentals of Computer Science
- Computer Science Principles AP
- Computer Science I Advanced
- Computer Science A AP
- Computer Science IB HL
- Computer Science IB SL
- Computer Science III
- Digital Forensics
- Mobile Application Development
- Practicum in STEM
- Practicum in Entrepreneurship
- Independent Study in Technology Applications

NOTE: Students who do not complete Algebra II, Chemistry and Physics, but earn four credits in the Programming and Software Development Program of Study, are eligible to earn a Business and Industry Endorsement.

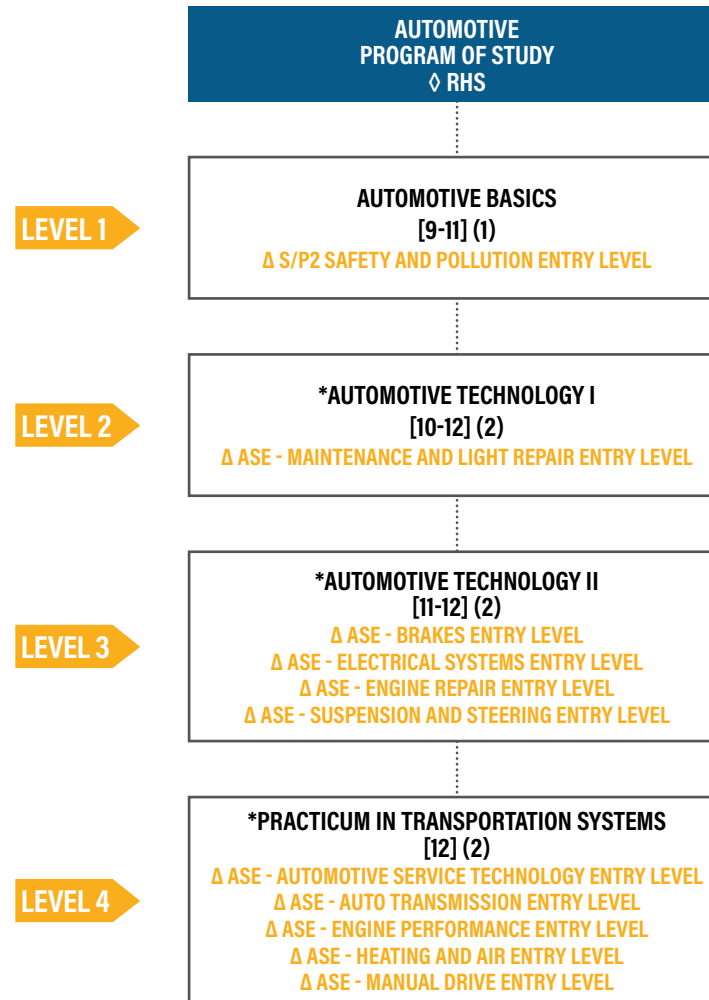
NOTES:



TRANSPORTATION, DISTRIBUTION, AND LOGISTICS

Recommended Course Sequences

*COURSE HAS A REQUIRED PREREQUISITE
 ▲ INDUSTRY-BASED CERTIFICATION
 [] GRADE LEVEL(S)
 () CREDITS
 ◇ SPECIALIZED PROGRAM



BUSINESS AND INDUSTRY

Note: Refer to course catalog for additional course sequence options, course descriptions and endorsement requirements. Dual credit courses may be substituted for requirements in appropriate areas; check with your counselor on available options. Specialized programs located on specific high school campuses are open to all LISD students; check with your campus College and Career Transition Coordinator for details.

AUTOMOTIVE

PROGRAM OF STUDY

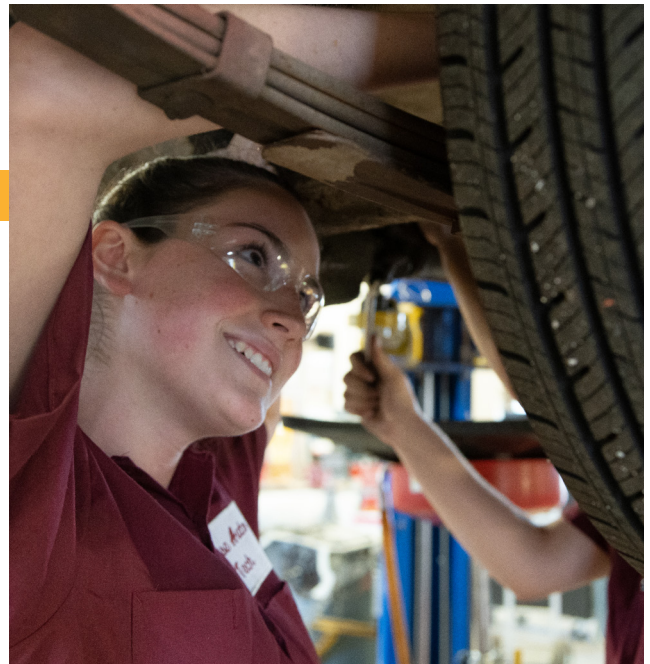
The Automotive program of study teaches students how to repair and service various types of automobiles. Students may learn to collect payment for services or supplies and perform typical vehicle maintenance procedures such as fluid exchanges, brakes and vehicle component diagnosis and replacement.

Texas Data: Collected by TEA October 2019

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

S/P2 Safety Certification;
Automotive Service Excellence (ASE) Certifications

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Automotive Body and Related Repairers	\$40,144	1,456	25%
Automotive Service Technician and Mechanics	\$38,459	5,557	18%



RECOMMENDED COURSE SEQUENCE

- 1 LEVEL** Automotive Basics (RHS)
- 2 LEVEL** Automotive Technology I (RHS)
- 3 LEVEL** Automotive Technology II (RHS)
- 4 LEVEL** Practicum in Transportation Systems (RHS)

NOTE: See reverse for additional course sequence options and endorsement requirements. Course descriptions and details can be found in the course catalog.

WORK-BASED LEARNING EXPERIENCES

Technical School Guest Speakers; Automotive Industry Speakers; Automotive SkillsUSA Competitions; Community Repair Service Projects; Internships.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS

SkillsUSA; National Technical Honor Society (NTHS)



The Transportation, Distribution, and Logistics Career Cluster focuses on careers in planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water. It also includes related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

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AUTOMOTIVE

BUSINESS AND INDUSTRY

A student may earn a Business and Industry endorsement by completing foundation and general endorsement requirements. Endorsement course options for the Automotive program of study are listed below.



4 CREDITS REQUIRED

Required Courses:

- Automotive Basics
- Automotive Technology I

Choose additional credits from the following:

- Automotive Technology II
- Practicum in Transportation Systems
- Agricultural Mechanics and Metal Technologies
- Business Management
- Professional Communications or Entrepreneurship
- Career Preparation
- Project-Based Research

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

S/P2 Safety Certification

S/P2 ensures students and employees learn about workplace safety and compliance with OSHA and EPA—before they step into the work area. S/P2 also offers training in Ethics, Human Resources, Mentoring, Sustainability and Soft Skills. S/P2 training helps schools and businesses reduce risk and instill a safety culture in all industries

Automotive Service Excellence (ASE) Certifications

ASE, is short for the National Institute for Automotive Service Excellence. Since 1972 the independent non-profit organization has worked to improve the quality of vehicle repair and service by testing and certifying automotive professionals. ASE promotes excellence in vehicle repair, service and parts distribution. ASE Certified Professionals work in every part of the automotive service industry. ASE certified automotive technicians and service professionals, not the auto shops.

ASE Entry-Level Automotive Maintenance and Light Repair (MR) - ASE Entry-Level Certification: Engine Repair (ER) -
ASE Entry-Level Brakes (BR) - ASE Entry-Level Suspension and Steering (SS) -
ASE Entry-Level Mechanical and Electrical Components (ME) - ASE Entry-Level Automatic Transmission/Transaxle (AT) -
ASE Entry-Level Engine Performance (EP) - ASE Entry-Level Heating and A/C (AC) -
ASE Entry-Level Certification: Manual DriveTrain and Axles (MD)

NOTES:

CAREER PREPARATION

Career Preparation is a year-long course that provides opportunities for students to participate in a learning experience that combines classroom instruction with paid business and industry employment experiences and supports strong partnerships among school, business, and community stakeholders. The goal is to prepare students with a variety of skills for a fast-changing workplace. This instructional arrangement should be an advanced component of a student's individual program of study. Students are taught employability skills, which include job-specific skills applicable to their training station, job interview techniques, communication skills, financial and budget activities, human relations, and portfolio development. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.

INDUSTRY-BASED CERTIFICATION OPPORTUNITIES

StartSafe. StaySafe. Workplace Safety Training.

With the CareerSafe philosophy, "StartSafe. StaySafe.," students will learn about their rights and responsibilities in the workplace and gain valuable knowledge about how they can protect themselves and others. Throughout the program, students explore a wide range of occupational safety and health topics including Introduction to OSHA, common physical and health hazards, hazard identification, and how to protect themselves from hazards, all intended to help them StartSafe. StaySafe.



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JOBS



Career Preparation I counts as credit in multiple Program of Study sequences leading to Business and Industry and Public Service Endorsements. Refer to the Endorsement section in back of the course catalog for all options.

- 3 Credits
- Senior Student Work Program– Paid Employment
- Students must have a job from the start of the school year to the end
- Off periods to go work
- Teacher Job Site Visits
- Work Evaluations
- Concurrent classroom learning and work experience
- Some job restrictions may apply

PALS (PEER ASSISTANCE AND LEADERSHIP)

In the LISD PALS Program, students will learn leadership skills such as: goal-setting, communication, peer listening, conflict resolution, group dynamics, and project planning. Students will use these skills in combination with a spirit to serve others to provide programs for their peers that increase motivation, self-esteem, and student involvement. PALS will also seek out opportunities to help serve in the community. Class time will be spent developing leadership skills, serving our peers on our own campus, and mentoring younger students at our feeder schools.

STUDENT CERTIFICATION OPPORTUNITIES

- Certification on Recognizing and Reporting Child Abuse through Williamson County Child Advocacy Center or other certified personnel.
- Certification through the nationally-recognized PAL Program by completing training on home campuses.

SERVICE-BASED LEARNING EXPERIENCES

- Offers one-on-one mentorship to all feeder school campuses in the district.
- Serves as a model on their home campus through peer mentorship and assisting other organizations. (Varies by campus)
- Serves at various community service opportunities year round.

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STUDENT ENROLLMENT

To be a part of the PALS program, students must go through a student enrollment form and interview process. This will take place during the Spring semester prior to program enrollment.

RECOMMENDED COURSE SEQUENCE



PALS 1: An introductory course to student mentoring and leadership available to all Juniors and Seniors at our high school campuses.



PALS 2: An advanced course available to returning PALS members that focuses on leadership within the program as well as student mentoring.

NOTE: Course descriptions and details can be found in the course catalog.





The #1 LISD community cultivates each student individually to produce the most sought after creators of our future world.

