

**LAMAR INSTITUTE
OF TECHNOLOGY**

Dual Credit Pathways

MEMBER THE TEXAS  STATE UNIVERSITY SYSTEM™

855 East Lavaca Beaumont, TX 77705
PO Box 10043 Beaumont, TX 77710

LIT.edu



LAMAR INSTITUTE OF TECHNOLOGY

Accountability

LIT can help your district attain CCMR indicators by assisting districts with students meeting TSI criteria, completing CTE (9 hours) and/or ELA/Math courses (3 hours), attaining industry certification training, and earning an associate's degree while in high school.

In this guide, you will find 29 suggested pathways that span 12 different career clusters and over 20 programs of study. These are suggested pathways and may be modified to meet the specific needs of your district. The crosswalks created within this guide are aligned with TEA's Programs of Study to give your district options for achieving CCMR indicators, as well as provide your students with an array of CTE options for beginning their post-secondary studies while still in high school. LIT will work with your district to update these crosswalks as needed to ensure the alignment of curriculum from TEA and LIT. Many of these pathways even provide students the opportunity to complete a post-secondary credential before graduating from high school!

Flexibility

In this guide, you will see that courses can be offered in a variety of ways at your campus, at LIT's campus, and many courses are offered online. In fact, we have several pathways that are offered completely online. Additionally, many of your teachers might currently meet the credentialing requirements to teach many of the courses offered at LIT. If you would like to utilize your current faculty to teach some of the courses in these pathways, we can evaluate credentials and discuss options with you.

If you are interested in adding any LIT Dual Credit pathways to your course offerings, please contact us and we will work with you to create pathways that are tailored to your district's needs.

Michael Hatton

Director of Dual Credit
mhatton@lit.edu
(409) 241-9441

Azlyn Grant

Dual Credit Recruiter/Advisor
agrants1@lit.edu
(409) 247-5302

General Inquiries

Dual Credit Office
dualcredit@lit.edu
(409) 951-5711

Abby Durr

Coordinator of Dual Credit
ahdurr@lit.edu
(409) 247-4798

Johnay Coulon

Dual Credit Recruiter/Advisor
jacoulon@lit.edu
(409) 247-4998

Table of Contents

TEA Program of Study

Lamar Institute of Technology Program

Architecture and Construction Cluster

Architectural Drafting and Design	Computer Drafting Technology	5
Electrical	Electrical Technology	7
Electrical	Pre-Lineman	8
HVAC and Sheet Metal	HVAC	11

Arts, Audio Visual Technology, and Communications Cluster

Graphic Design and Interactive Media	Game Design	13
Graphic Design and Interactive Media	Graphic Design	14

Business, Marketing, and Finance Cluster

Accounting and Financial Services	Accounting Technology - Online	17
Accounting and Financial Services	Associate of Arts in Business - Online	18
Real Estate	Real Estate - Online	21
Business Management	Management Entrepreneurship - Online	23

Education and Training Cluster

Early Learning	Child Care and Development	25
Teaching and Training	Associate of Arts in Teaching - Online	27

Energy Cluster

Refining and Chemical Process	Process Operating Technology - Online (partial)	29
Refining and Chemical Process	Instrumentation Technology	30

Health Science Cluster

Health Informatics	Health Information Technology - Online	33
Diagnostic and Therapeutic Services	Pharmacy Technician	35
Nursing Science	Associate of Science in Health Science - Nursing Track	37

Human Services

Cosmetology and Personal Care Services	Cosmetology	39
--	-------------	----

Hospitality and Tourism Cluster

Culinary Arts	Culinary Arts	41
---------------	---------------	----

Information Technology Cluster

Networking Systems	Computer Support Technology (Full Level 1 Certificate)	43
Cybersecurity	Cyber Defense Technology - Online (partial)	45

Law and Public Services Cluster

Fire Science	Emergency Medical Technician - Online (partial)	47
Law Enforcement	Associate of Science in Criminal Justice	49
Law Enforcement	Crime Scene Technician (Full Level 1 Certificate)	50
Law Enforcement	Security Threat Groups/Crime Scene Tech Hybrid	51

Manufacturing Cluster

Welding	Welding Technology - Online (partial)	55
---------	--	----

Transportation, Distribution, and Logistics Cluster

Automotive and Collision Repair	Automotive Technician	57
Automotive and Collision Repair	Automotive Collision	58

LIT "Core 42"

General Education	"Core 42" Crosswalk	60
-------------------	---------------------	----

Teacher Credentialing Requirements for Dual Credit	61
--	----

TSI Admission Standards	62
-------------------------	----

GEDS Course Inventory with Prerequisites & TSI Requirements	63
---	----

Open Educational Resource Listing	64
-----------------------------------	----



Architecture and Construction Career Cluster

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

Statewide Program of Study: Architectural Drafting and Design

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



Secondary Courses for High School Credit

- | | |
|----------------|--|
| Level 1 | <ul style="list-style-type: none"> Principles of Architecture Principles of Construction |
| Level 2 | <ul style="list-style-type: none"> Interior Design I Architectural Design I Computer Aided Drafting for Architecture |
| Level 3 | <ul style="list-style-type: none"> Civil Engineering and Architecture (PLTW) Interior Design II Architectural Design II |
| Level 4 | <ul style="list-style-type: none"> Practicum in Interior Design Practicum in Interior Design + Extended Practicum in Interior Design Practicum in Architectural Design Practicum in Architectural Design + Extended Practicum in Architectural Design Practicum in Construction Technology Practicum in Construction Technology + Extended Practicum in Construction Technology Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation Career and Technical Education Project-Based Capstone |

Aligned Advanced Academic Courses

Dual Credit Dual credit offerings will vary by Local Education Agency.

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count toward Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

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

Expanded Learning Opportunities

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

Industry-Based Certifications

- Autodesk Associate (Certified User) 3ds MAX
- Autodesk Associate (Certified User) AutoCAD
- Autodesk Associate (Certified User) Fusion 360
- Autodesk Associate (Certified User) Revit Architecture
- Autodesk Associate (Certified User) Revit for Electrical
- Autodesk Associate (Certified User) Revit for Structural Design
- Autodesk Certified Professional Fusion 360
- Autodesk Certified Professional in AutoCAD for Design and Drafting
- Autodesk Certified Professional in Civil 3D for Infrastructure Design
- Autodesk Certified Professional in Revit for Architectural Design
- Autodesk Certified Professional in Revit for Electrical Design
- Autodesk Certified Professional in Revit for Structural Design
- Certified SOLIDWORKS Associate (CSWA) - Academic
- Certified SOLIDWORKS Associate (CSWA) - Electrical
- Certified SOLIDWORKS Associate (CSWA) - Simulation
- Certified SOLIDWORKS Associate (CSWA) - Sustainability
- Certified SOLIDWORKS Professional (CSWP) - Academic
- Certified SOLIDWORKS Professional (CSWP) - Model Based Definition
- Certified SOLIDWORKS Professional (CSWP) - Simulation
- Certified SOLIDWORKS Professional (CSWPA) - Drawing Tools
- LEED Green Associate
- Residential Plans Examiner - R3



Postsecondary Opportunities

Apprenticeships

- Drafter

Associate Degrees

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

Bachelor's Degrees

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

Master's, Doctoral, and Professional Degrees

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



Example Aligned Occupations

Architectural and Civil Drafters

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

Architects

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

Construction Managers

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

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



For more information visit:

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

Suggested Drafting Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
Elective		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Electives		1.5		
TOTAL Credits		7		0

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra 2		1		
Physics		1		
PE		1		
Arch. Design I	13004600	1	DFTG 1305 (F)	3
CAD for Architecture	N1300429	1	DFTG 2308 (F)	3
			DFTG 1309 (S)	3
TOTAL CREDITS		7		9

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
Elective		1		
4th Science		1		
Arch. Design II	13004700	2	DFTG 2319 (F)	3
			DFTG 2323 (S)	3
TOTAL CREDITS		7		6

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	15
--------------------------	-----------	--	-----------

LIT Course	LIT Course Name
DFTG 1305	Technical Drafting
DFTG 2308	Instrumentation Drafting
DFTG 1309	Basic Computer Aided Drafting
DFTG 2319	Intermediate CAD Drafting
DFTG 2323	Pipe Drafting

Endorsement: Business and Industry
Program of Study: Architectural Design
Cluster: Architecture and Construction

Program Information
Students completing this course of study will have completed 15 out of 60 hours of their AAS in Computer Drafting Technology at LIT. Arch. Design I and CAD for Architecture MUST be scheduled together as a block to accommodate lab requirements. All courses are taught in person. In some cases, ISD CTE instructors that are currently teaching these courses can be credentialed as LIT adjuncts to teach these courses. These courses will also prepare students to test for Autodesk Certified professional or User in AutoCAD.



Architecture and Construction Career Cluster

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

Statewide Program of Study: *Electrical*

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



Secondary Courses for High School Credit

- | | |
|----------------|---|
| Level 1 | <ul style="list-style-type: none"> Principles of Architecture Principles of Construction |
| Level 2 | <ul style="list-style-type: none"> Electrical Technology I Entrepreneurship I |
| Level 3 | <ul style="list-style-type: none"> Electrical Technology II |
| Level 4 | <ul style="list-style-type: none"> Practicum in Entrepreneurship Practicum in Construction Technology Practicum in Construction Technology + Extended Practicum in Construction Technology Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation |

Aligned Advanced Academic Courses

Dual Credit Dual credit offerings will vary by Local Education Agency.

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

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

Expanded Learning Opportunities

- Participate in SkillsUSA
- Participate in trade competitions

Industry-Based Certifications

- C-200 Certified Industry 4.0 Automation Systems Specialist I—201 Electrical Systems 1
- Electrical Apprenticeship Certificate Level 1
- HBI Pre-Apprenticeship Certificate Training (PACT), Basic Electrical
- HBI Pre-Apprenticeship Certificate Training (PACT), Core
- NCCER Commercial Electrician
- NCCER Construction Technology Certification Level I
- NCCER Core
- NCCER Electrical Level I
- NCCER Electrical Level II
- NCCER Electronic System Technician Level I
- NCCER Electronic System Technician Level II
- TRIO Electrical Pre-Apprenticeship (EPP) Certification
- Industrial Technology Maintenance (ITM) —Electrical Systems



Postsecondary Opportunities

Apprenticeship

- Electrician

Associate Degrees

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

Bachelor's Degrees

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

Master's, Doctoral, and Professional Degrees

- Construction Engineering
- Construction Management

Additional Stackable IBCs/Licensures

- Journeyman Electrician
- Master Electrician



Example Aligned Occupations

Electricians Helpers

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

Electricians

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

Construction Managers

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

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



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

Electrical Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
College Readiness	03270100	0.5	EDUC 1100 (S)	1
Elective		0.5		
TOTAL CREDITS		7		1

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Elective		1		
Elective		0.5		
TOTAL Credits		7		0

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
PE		1		
Principles of Constr.	13004220	1	ELPT 1411 (F)	4
Electrical Tech. I	13005600	1	ELPT 1321 (S)	3
TOTAL CREDITS		7		7

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
Elective		1		
4th Science		1		
Electrical Technology II	13005700	2	ELPT 1325 (F)	3
			ELPT 1315 (F)	3
			ELPT 1329 (S)	3
			ELPT 2225 (S)	2
TOTAL CREDITS		7		11

LIT Course	LIT Course Name
ELPT 1411	Basic Electrical Theory
ELPT 1321	Intro to Electrical Safety and Tools
ELPT 1325	National Electrical Code-1
ELPT 1315	Electrical Calculations-1
ELPT 1329	Residential Wiring
ELPT 2225	National Electrical Code- 2
EDUC 1100	Learning Framework

EDUC 1100 is not required for the Electrical Level 1 Certificate. However, this is a transferrable credit that is recommended before beginning LIT's degree programs. This is a college readiness course that will prepare students for college coursework.

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	19
--------------------------	-----------	--	-----------

Endorsement: Business and Industry
Program of Study: Electrical
Cluster: Architecture and Construction

Program Information

*Courses in the junior year must be scheduled together to permit adequate time for lab courses. Students completing this course of study will graduate from LIT with their Electrical Level 1 Certificate. This is a stackable credential that can be applied to the AAS in Electrical Technology.

Pre-Lineman Program Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
College Readiness	03270100	0.5	EDUC 1100 (S)	1
Elective		0.5		
TOTAL CREDITS		7		1

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Elective		1		
Elective		0.5		
TOTAL Credits		7		0

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
PE		1		
Principles of Constr.	13004220	1	ELPT 1411 (F)	4
Electrical Tech. I	13005600	1	ELPT 1321 (S)	3
TOTAL CREDITS		7		7

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
Elective		1		
4th Science		1		
Electrical Tech. II	13005700	2	LNWK 1301 (F)	3
			CVOP 1201 (S)	2
TOTAL CREDITS		7		5

LIT Course	LIT Course Name
ELPT 1411	Basic Electrical Theory
ELPT 1321	Intro to Electrical Safety and Tools
LNWK 1301	Orientation and Line skill Fundamentals
CVOP 1201	Commercial License Driving Skills
EDUC 1100	Learning Framework

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	13
--------------------------	-----------	--	-----------

EDUC 1100 is not required for the pre-lineman program. However, this is a transferrable credit that is recommended before beginning LIT's degree programs. This is a college readiness course that will prepare students for college coursework.

Endorsement: Business and Industry
Program of Study: Electrical
Cluster: Architecture and Construction

Program Information

*Courses in the junior year must be scheduled together to permit adequate time for lab courses. Students completing the pre-lineman program will have the opportunity to complete their program over the summer and subsequent fall following high school graduation at LIT.



Architecture and Construction Career Cluster

The Architecture and Construction career cluster focuses on designing, planning, managing, building, and maintaining the built environment. This career cluster includes occupations ranging from architects, carpenters, and construction managers to electricians, plumbers and heating, air conditioning and refrigeration technicians.

Statewide Program of Study: HVAC and Sheet Metal

The HVAC and Sheet Metal program of study focuses on occupational and educational opportunities associated with installing, servicing, or repairing heating and air conditioning systems. The program of study addresses fabrication, assembly, installation, and repair of sheet metal products and equipment, such as ducts, control boxes, drainpipes, and furnace casings.



Secondary Courses for High School Credit

- | | |
|----------------|--|
| Level 1 | <ul style="list-style-type: none"> Principles of Architecture Principles of Construction |
| Level 2 | <ul style="list-style-type: none"> Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology I Building Maintenance Technology I Entrepreneurship I |
| Level 3 | <ul style="list-style-type: none"> Sheet Metal Technology Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology II |
| Level 4 | <ul style="list-style-type: none"> Practicum in Construction Technology Practicum in Construction Technology + Extended Practicum in Construction Technology Practicum in Entrepreneurship Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation |

Aligned Advanced Academic Courses

Dual Credit Dual credit offerings will vary by Local Education Agency.

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count toward Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

- | | |
|--|---|
| Work-Based Learning Activities | <ul style="list-style-type: none"> Participate in a pre-apprenticeship in HVAC and refrigeration Intern with an HVAC company to practice installing and repairing heating and cooling systems |
| Expanded Learning Opportunities | <ul style="list-style-type: none"> Job shadow an HVAC technician or cost estimator Participate in SkillsUSA |

Industry-Based Certifications

- Employment Ready Certification - Air Conditioning (PACT), Heating, Ventilation and Air Conditioning
- Employment Ready Certification - Electrical Heating, Electrical, and Air Conditioning Technology (H.E.A.T.)
- Employment Ready Certification - Gas Heat NCCER Construction Technology Certification Level I
- Employment Ready Certification - Heat Pumps NCCER Core
- Employment Ready Certification - Light Commercial Air Conditioning NCCER Heating, Ventilation, Air Conditioning Level I
- HBI Pre-Apprenticeship Certificate Training (PACT), Core NCCER Sheet Metal Level I
- HBI Pre-Apprenticeship Certificate Training Refrigerant Handling (EPA 608)



Postsecondary Opportunities

Apprenticeships

- Heating and Air Conditioning Installer

Associate Degrees

- Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology
- Construction Site Management
- Property Maintenance
- Sheet Metal Technology/Sheetworking

Bachelor's Degrees

- Construction Engineering
- Construction Management
- Building/Construction Site Management
- Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology

Master's, Doctoral, and Professional Degrees

- Construction Engineering
- Construction Management

Example Aligned Occupations



Helpers—Installation, Maintenance, and Repair Workers

Median Wage: \$33,348
Annual Openings: 2,366
10-Year Growth: 22%

Heating, Air Conditioning, and Refrigeration Mechanics and Installers

Median Wage: \$48,722
Annual Openings: 3,719
10-Year Growth: 21%

Construction Managers

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

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

For more information visit:

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



Suggested Crosswalk for HVAC Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
Elective		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Electives		1.5		
TOTAL Credits		7		0

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
PE		1		
Principles of Constr.	13004220	1	HART 1403 (F)	4
HVAC Tech. I	13005800	1	HART 1401 (S)	4
TOTAL CREDITS		7		8

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
Elective		1		
4th Science		1		
HVAC Tech II	13005900	2	HART 1407 (F)	4
			HART 2438 (S)	4
TOTAL CREDITS		7		8

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	16
--------------------------	-----------	--	-----------

LIT Course	LIT Course Name
HART 1401	Basic Electricity for HVAC
HART 1403	Air Conditioning Control Principles
HART 1407	Refrigeration Principles
HART 2438	Air Conditioning Installation & Startup

Endorsement: Business and Industry
Program of Study: HVAC and Sheet Metal
Cluster: Architecture and Construction

Program Information

*Courses in the junior year must be scheduled together to permit adequate time for lab courses. Students completing this course of study will receive their Level 1 HVAC Certificate from LIT. This award be applied to the AAS of HVAC.

Arts, Audio Visual Technology and Communication Career Cluster



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

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

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



Secondary Courses for High School Credit

Level 1	<ul style="list-style-type: none"> Principles of Arts, Audio/Video Technology, and Communications Video Game Design Digital Media Web Communications
Level 2	<ul style="list-style-type: none"> Game Programming and Design Foundations of User Experience (UX) Digital Design and Media Production Video Game Programming Graphic Design and Illustration I Graphic Design and Illustration I + Graphic Design and Illustration I Lab Animation I Animation I + Animation I Lab Fashion Design I Fashion Design I + Fashion Design I Lab Commercial Photography I Commercial Photography I + Commercial Photography I Lab Entrepreneurship I
Level 3	<ul style="list-style-type: none"> Digital Art and Animation 3-D Modeling and Animation Web Game Development Advanced Video Game Programming Advanced User Experience Design Graphic Design and Illustration II Graphic Design and Illustration II + Graphic Design and Illustration II Lab Animation II Animation II + Animation II Lab Fashion Design II Fashion Design II + Fashion Design II Lab Commercial Photography II Commercial Photography II + Commercial Photography II Lab
Level 4	<ul style="list-style-type: none"> Virtual Production (TBD) Practicum in Graphic Design and Illustration Practicum in Graphic Design and Illustration + Extended Practicum in Graphic Design and Illustration Practicum in Animation Practicum in Animation + Extended Practicum in Animation Practicum in Fashion Design Practicum in Fashion Design + Extended Practicum in Fashion Design Practicum in Commercial Photography Practicum in Commercial Photography + Extended Practicum in Commercial Photography Independent Study in Technology Applications Independent Study in Evolving/Emerging Technologies Practicum in Entrepreneurship Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation

Aligned Advanced Academic Courses

AP or IB	AP Studio Art: Two-Dimensional Design Portfolio
Dual Credit	Dual credit offerings will vary by Local Education Agency.

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

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

Aligned Industry-Based Certifications

- Adobe Certified Professional in Digital Video Using Adobe Premiere Pro
- Adobe Certified Professional in Graphic Design and Illustration Using Adobe Illustrator
- Adobe Certified Professional in Print and Digital Media Publication Using Adobe InDesign
- Adobe Certified Professional in Visual Design
- Adobe Certified Professional in Visual Design Using Adobe Photoshop
- Adobe Certified Professional in Visual Effects and Motion Graphics Using Adobe After Effects
- Audio-Visual Communications - Job Ready
- Autodesk Associate (Certified User) 3ds MAX
- C++ Certified Associate Programmer
- Certified Entry-Level Python Programmer (PCEP)
- Certified Professional Photographer
- Certified Professional Programmer
- Certified User: Programmer
- CodeHS Python Level I Certification
- Graphic Production Technology - Job Ready
- Oracle Certified Associate Java SE 8 Programmer



Example Postsecondary Opportunities

Associate Degrees

- Graphic Design
- Digital Arts



Bachelor's Degrees

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

Master's, Doctoral, and Professional Degrees

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

Additional Stackable IBCs/Licensures

- Certified Textile Designer (CTD)



Example Aligned Occupations

Software Developers

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

Graphic Designers

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

Art Directors

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

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



For more information visit:

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

Suggested Game Design Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
Video Game Design	13012100	1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Prin. of Information Technology	13027200	1	ITSC 1301 (F)	3
			ITSC 1305 (S)	3
Elective		0.5		
TOTAL Credits		7		6

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
Video Game Programming	N1300994	1	ITSE 1302 (F)	3
			ITSE 2321 (S)	3
P.E. Credit		1		
Elective		1		
TOTAL CREDITS		7		6

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
Game Program. & Design	03580380	1	GAME 1303 (F)	3
			GAME 1304 (S)	3
Adv Video Game Programming	N1300995	1	ITSE 1350 (F)	3
			ITSY 1300 (S)	3
Elective		1		
TOTAL CREDITS		7		12

LIT Course	LIT Course Name
ITSC 1301	Intro to Computers
ITSC 1305	Intro to PC Operating Systems
ITSE 1302	Computer Programming
ITSE 2321	Object-Oriented Programming
ITSE 1350	System Analysis & Design
ITSY 1300	Fundamentals of Information Security
GAME 1303	Intro to Game Design
GAME 1304	Level Design

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	24
--------------------------	-----------	--	-----------

Endorsement: Business and Industry
Program of Study: Graphic Design and Multimedia Arts
Cluster: Arts, A/V Technology and Communications

Program Information

Students completing this course of study will graduate from LIT with their Game Design Level 1 Certificate. In most cases, ISD CTE Instructors who are currently teaching these courses can be credentialed as LIT adjuncts to teach these courses.

Suggested Graphic Design Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
P.E. Credit		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Electives		1.5		
TOTAL Credits		7		0

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
Graphic Design and Illustration I	13008810	2	ARTC 1310 (F)	3
			ARTC 1313 (F)	3
			ARTC 1317 (S)	3
			ARTC 2313 (S)	3
Elective		1		
TOTAL CREDITS		7		12

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
Graphic Design and Illustration II	13008910	2	ARTC 1302 (F)	3
			ARTC 2347 (F)	3
			ARTC 2305 (S)	3
			ARTC 2335 (S)	3
Elective		1		
TOTAL CREDITS		7		12

LIT Course	LIT Course Name
ARTC 1310	Design Concepts
ARTC 1313	Digital Publishing I
ARTC 1317	Design Communication I
ARTC 2313	Digital Publishing II
ARTC 1302	Digital Imaging I
ARTC 2347	Design Communication II
ARTC 2305	Digital Imaging II
ARTC 2335	Portfolio Dev. For Graphic Design

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	24
--------------------------	-----------	--	-----------

Endorsement: Business and Industry
Program of Study: Graphic Design and Multimedia Arts
Cluster: Arts, A/V Technology and Communications

Program Information

Students completing this course of study will graduate from LIT with their Graphic Design Level 1 Certificate. In most cases, ISD CTE Instructors who are currently teaching these courses can be credentialed as LIT adjuncts to teach these courses. This award can be applied to the Associate of Graphic Design at LIT for those who wish to continue on this path. In most cases, ISD CTE instructors who are currently teaching these courses can be credentialed as LIT adjuncts to teach these courses. These courses will also prepare students to test for the following industry certifications: Adobe Photoshop ACA, Illustrator ACA

Business, Marketing, and Finance Career Cluster

Revised – March 2024

The Business, Marketing, and Finance career cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. This career cluster includes occupations ranging from business owner and entrepreneur, to accountant, retail manager and market analyst.

Statewide Program of Study: Accounting and Financial Services

The Accounting and Financial Services program of study focuses on occupational and educational opportunities associated with examining, analyzing, and interpreting financial records. It includes exploration of financial services, preparing financial statements, auditing financial statements prepared by others, and interpreting accounting records. This program of study also introduces students to mathematical modeling tools.

Secondary Courses for High School Credit



- | | |
|----------------|---|
| Level 1 | <ul style="list-style-type: none"> Principles of Business, Marketing, and Finance Money Matters Business Information Management I Business Information Management I + Business Lab |
| Level 2 | <ul style="list-style-type: none"> Banking and Financial Services Accounting I Financial Mathematics Entrepreneurship I |
| Level 3 | <ul style="list-style-type: none"> Insurance Operations Accounting II Financial Analysis |
| Level 4 | <ul style="list-style-type: none"> Securities and Investments Practicum in Business Management Practicum in Business Management + Extended Practicum in Business Management Practicum in Entrepreneurship Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation |

Aligned Advanced Academic Courses

AP or IB	IB Mathematics Analysis and Approaches SL IB Mathematics Analysis and Approaches HL
Dual Credit	Dual credit offerings will vary by Local Educational Agency.

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Intern with a public certified accountant (CPA) at a local business Intern with a city or county auditor's office Shadow a financial advisor as an intern at an investment company
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in BPA, DECA, or FBLA Explore student membership in professional organizations such as AICPA, CIMA, or TXCPA

Aligned Industry-Based Certifications

- Accounting – Basic
- Accounting Foundations
- Certified Insurance Service Representative
- Intuit QuickBooks Certified User
- MB-920: Microsoft Dynamics 365 Fundamentals Finance and Operations Apps
- Microsoft Office Specialist: Microsoft Access Expert (Access 2019)
- Microsoft Office Specialist: Microsoft Excel Expert (Excel 2019)
- Volunteer Income Tax Assistance/Tax Counseling Certification: Advanced
- Volunteer Income Tax Assistance/Tax Counseling Certification: Basic
- Volunteer Income Tax Assistance/Tax Counseling Certification: Volunteer for Elderly



Example Postsecondary Opportunities

Associate Degrees

- Accounting
- Bookkeeping

Bachelor's Degrees

- Accounting
- Banking and Financial Support Services

Master's, Doctoral, and Professional Degrees

- Business Administration and Management
- Finance

Additional Stackable IBCs/Licensures

- Project Management Professional
- Property Tax Consultants Service Contract Providers



Example Aligned Occupations

Tax Preparers

Median Wage: \$56,956
Annual Openings: 898
10-Year Growth: 14%

Accountants and Auditors

Median Wage: \$78,022
Annual Openings: 12,989
10-Year Growth: 20%

Personal Financial Advisors

Median Wage: \$77,605
Annual Openings: 1,877
10-Year Growth: 21%

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



For more information visit:

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

Suggested Accounting Technology Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
College Readiness	03270100	0.5	EDUC 1100 (S)	1
Elective		0.5		
TOTAL CREDITS		7		1

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Principles of Business	13011200	1	BUSI 1301 (F)	3
Elective		0.5		
TOTAL Credits		7		3

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III	03220300	1	ENGL 1301 (F)	3
World History		1		
Algebra II		1		
Physics		1		
Bus. Info. Mgmt	13011400	1	ITSW 1304 (F)	3
			ITSW 1307 (S)	3
Accounting I	13016600	1	ACNT 1303 (F)	3
			ACNT 1311 (S)	3
PE Credit		1		
TOTAL CREDITS		7		15

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics	03310300	0.5	ECON 2301 (F)	3
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
Elective		1		
Accounting II	13016700	1	ACNT 1331 (F)	3
			ACNT 1329 (S)	3
Elective		1		
TOTAL CREDITS		7		9

LIT Course	LIT Course Name
BUSI 1301 *	Business Principles
ITSW 1304 *	Introduction to Spreadsheets
ITSW 1307 *	Introduction to Databases
ACNT 1303 *	Introduction to Accounting I
ACNT 1311 *	Introduction to Computerized Accounting
ACNT 1331 *	Federal Income Tax
ACNT 1329 *	Payroll and Business Tax
ENGL 1301 **^	Composition I (TSI Reading/Writing)
EDUC 1100 **^	Learning Framework

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	28
--------------------------	-----------	--	-----------

Endorsement: Business and Industry
Program of Study: Accounting and Financial Services
Cluster: Business, Marketing, & Finance

* Denotes that course is offered online

^ Denotes that course is Open Source- No Textbook Cost

EDUC 1100 is not required for the Accounting Technology Level 1 Certificate. However, this is a transferrable credit that is recommended before beginning LIT's online degree programs. This is a college readiness course that will prepare students for online learning.

Program Information

Students completing this course of study will graduate from LIT with their Accounting Technology Level 1 Certificate, which can be applied to an AAS in Accounting Technology. The highlighted course has TSI requirements and is required for this degree. These courses will also prepare students to test for the following industry certifications: QuickBooks Certified User and Microsoft Office Specialist or Expert- Excel. **This entire program is offered online.**

Suggested Associate of Arts in Business Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Elective		0.5		
College Readiness	03270100	0.5	EDUC 1100 (S)	1
Art I	03500100	1	ARTS 1301 (F)	3
TOTAL CREDITS		7		4

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History	03340100	0.5	HIST 1301 (F)	3
		0.5	HIST 1302 (S)	3
Geometry		1		
Biology		1		
Foreign Language II		1		
Comm. Applications	03241400	0.5	SPCH 1318 (F)	3
Public Speaking	03240900	0.5	SPCH 1315 (S)	3
Principles of Bus.	13011200	1	BUSI 1301 (S)	3
TOTAL Credits		7		15

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III	03220300	0.5	ENGL 1301 (F)	3
		0.5		
World History		1		
Algebra II	03100600	1	MATH 1314 (F)	3
Physics		1		
BIM	13011400	1	BCIS 1305 (S)	3
Accounting 1	13016600	1	ACCT 2301 (S)	3
PE		1		
TOTAL CREDITS		7		12

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV	03220400	0.5	ENGL 2321 (F)	3
		0.5		
Economics	03310300	0.5	ECON 2301 (F)	3
US Government	03330100	0.5	GOVT 2305 (F)	3
Pre-Cal/ 4th Math		1	MATH 1325 (S)	3
Anatomy & Physiology	13020600	1	BIOL 2301/2101 (F)	4
			BIOL 2302/2102 (S)	4
Spec. Top. in SS 1	03380002	0.5	GOVT 2306 (S)	3
Accounting 2	13016700	1	ACCT 2302 (S)	3
Spec. Top. In SS 2	03380022	0.5	ECON 2302 (S)	3
Elective		1		
TOTAL CREDITS		7		29

Business Courses	LIT Business Course Names
BUSI 1301 *	Business Principles
BCIS 1305 *	Business Computer Applications
ACCT 2301 *	Principles of Financial Accounting
ACCT 2302 *	Principles of Managerial Accounting
MATH 1325 *	Calculus for Business
ECON 2302 *^	Principles of Microeconomics

* Denotes that the course is offered online

^ Denotes that course is Open Source- No Textbook Cost

LIT Core Courses	LIT Core Course Names
EDUC 1100 *^	Learning Framework
ARTS 1301 *^	Art Appreciation
HIST 1301/1302 *^	United States History I & II
SPCH 1315 *^	Public Speaking
SPCH 1318 *^	Interpersonal Communication
ENGL 1301 *^	Composition I
MATH 1314 *^	College Algebra
ENGL 2321 *^	British Literature
ECON 2301 *^	Principles of Macroeconomics
GOVT 2305 *^	Federal Government
GOVT 2306 *^	Texas Government
BIOL 2301/2101 *^	Anatomy and Physiology I
BIOL 2302/2102 *^	Anatomy and Physiology II

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	60
--------------------------	-----------	--	-----------

Endorsement: Business and Industry
Program of Study: Accounting and Financial Services
Cluster: Business, Marketing, & Finance

Program Information
These courses will also prepare students to test for the following industry certifications: QuickBooks certified user, Microsoft office Specialist or Expert-Excel. This entire program is offered online.

Students completing this course of study will graduate from Lamar Institute of Technology with an Associate of Arts in Business, which is designed for students who wish to take courses for academic transfer in business. This degree provides Core Curriculum that will transfer to four year institutions and coincides with the first two years of most baccalaureate business degree plans.

Business, Marketing, and Finance Career Cluster

The Business, Marketing, and Finance career cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. This career cluster includes occupations ranging from business owner and entrepreneur to accountant, retail manager, and market analyst.

Statewide Program of Study: **Real Estate**

The Real Estate program of study focuses on occupational and educational opportunities associated with financing, selling, and contracting real estate. This program of study includes management, economics, marketing, and financial principles of real estate evaluation. It also addresses commercial real estate including lending, developing, brokering, and financing.



Secondary Courses for High School Credit

- | | |
|----------------|---|
| Level 1 | <ul style="list-style-type: none"> Principles of Business, Marketing, and Finance Professional Communications |
| Level 2 | <ul style="list-style-type: none"> Interior Design I Business Law Financial Mathematics Marketing Entrepreneurship I |
| Level 3 | <ul style="list-style-type: none"> Fundamentals of Real Estate Insurance Operations Financial Analysis |
| Level 4 | <ul style="list-style-type: none"> Commercial Lending and Real Estate (TBD) Practicum in Business Management Practicum in Business Management + Extended Practicum in Business Management Practicum in Entrepreneurship Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation |

Aligned Advanced Academic Courses

Dual Credit Dual credit offerings will vary by Local Education Agency.

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Intern with a local real estate company or commercial realtor
- Job shadow a property manager or local realtor
- Conduct informational interviews with employees at a real estate investment company

Expanded Learning Opportunities

- Participate in BPA, DECA, FBLA, or UIL-related events
- Explore student membership in related professional organizations

Aligned Industry-Based Certifications

- Customer Service and Sales: Certified Specialist
- Student Social Media Marketing Certification
- Real Estate Sales Agent License



Example Postsecondary Opportunities

Associate Degrees

- Business Administration and Management
- Real Estate

Bachelor's Degrees

- Business Administration and Management
- Real Estate

Master's, Doctoral, and Professional Degrees

- Business Administration and Management
- Parks, Recreation, and Leisure Facilities Management

Additional Stackable IBCs/Licensures

- Real Estate



Example Aligned Occupations

Real Estate Sales Agents

Median Wage: \$50,746
Annual Openings: 5,058
10-Year Growth: 15%

Property, Real Estate, and Community Association Managers

Median Wage: \$59,788
Annual Openings: 3,457
10-Year Growth: 15%

Title Examiners, Abstractors, and Searchers

Median Wage: \$58,593
Annual Openings: 819
10-Year Growth: 12%

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



For more information visit:

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

Suggested Real Estate Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
PE Credit		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Prin. of Business	13011200	1		
Elective		0.5		
TOTAL Credits		7		0

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
Fundamentals of Real Estate	N1301120	2	RELE 1301 (F)	3
			RELE1311 (F)	3
			RELE 1338 (S)	3
			RELE 1300 (S)	3
Elective		1		
TOTAL CREDITS		7		12

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
Practicum in Marketing	13034800	2	RELE 2301 (F)	3
			RELE 1319 (F)	3
			RELE 2331 (S)	3
			RELE 1303 (S)	3
Elective		1		
TOTAL CREDITS		7		12

LIT Course	LIT Course Name
RELE 1301 *	Principles of Real Estate
RELE 1311 *	Law of Contracts
RELE 2301 *	Law of Agency
RELE 1300 *	Contract Forms and Addenda
RELE 2331*	Real Estate Brokerage
RELE 1319 *	Real Estate Finance
RELE 1338 *	Principles of Real Estate II
RELE 1303 *	Real Estate Appraisal

*Denotes that the course is available online.

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	24
--------------------------	-----------	--	-----------

Endorsement: Business and Industry
Program of Study: Marketing and Sales
Cluster: Business, Marketing, & Finance

Program Information

Students completing this course of study will graduate from LIT with their Real Estate Level 1 Certificate. These courses satisfy the educational requirements for the Texas Real Estate Commission for salespersons' licenses and renewals and the requirements for the Texas Appraisal Licensing and Certification Board. **This entire program is available online. ALL courses are 8 week courses.**

Business, Marketing, and Finance Career Cluster



The Business, Marketing, and Finance career cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. This career cluster includes occupations ranging from business owner and entrepreneur to accountant, retail manager, and market analyst.

Statewide Program of Study: *Business Management*

The Business Management program of study focuses on occupational and educational opportunities associated with planning, directing, and coordinating the administrative services and operations of an organization. It includes formulating policies, managing daily operations, and allocating the use of materials and human resources. This program of study also introduces students to mathematical modeling tools and organizational evaluation methods.



Secondary Courses for High School Credit

- | | |
|----------------|--|
| Level 1 | <ul style="list-style-type: none"> Principles of Business, Marketing, and Finance Business Information Management I Business Information Management I + Business Lab |
| Level 2 | <ul style="list-style-type: none"> Virtual Business Business Law Business Information Management II Business Information Management II + Business Lab Entrepreneurship I |
| Level 3 | <ul style="list-style-type: none"> Business Management Global Business Human Resources Management |
| Level 4 | <ul style="list-style-type: none"> Statistics and Business Decision Making Practicum in Business Management Practicum in Business Management + Extended Practicum in Business Management Practicum in Entrepreneurship Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation |

Aligned Advanced Academic Courses

AP or IB	AP Microeconomics AP Statistics	IB Economics SL IB Economics HL
Dual Credit	Dual credit offerings will vary by Local Education Agency.	

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Intern at local business in the HR department Shadow the COO of a local business or chamber of commerce
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in BPA, DECA, FBLA, or related UIL events Explore student membership in related professional organizations

Aligned Industry-Based Certifications

- Administrative Assisting
- Certified Associate in Project Management (CAPM)
- Entrepreneurship and Small Business
- General Management
- MB-920: Microsoft Dynamics 365 Fundamentals Finance and Operations Apps IBC info
- Microsoft Office Specialist 2016 Master
- Microsoft Office Specialist: Microsoft Access Expert (Access 2019)
- Microsoft Office Specialist: Microsoft Excel Expert (Excel 2019)
- Microsoft Office Specialist: Microsoft Word Expert (Word 2019)
- Project Management Institute (PMI) Project Management Ready
- Business of Retail: Certified Specialist
- Customer Service and Sales: Certified Specialist
- Student Social Media Marketing Certification



Example Postsecondary Opportunities

Associate Degrees

- Business Administration and Management
- Human Resources Management



Bachelor's Degrees

- Business Analytics
- Accounting and Business

Master's, Doctoral, and Professional Degrees

- Business Administration and Management
- Organizational Leadership

Additional Stackable IBCs/Licensures

- Professional Certificate in Team Leadership
- Property Tax Professionals



Example Aligned Occupations

First-Line Supervisors of Administrative Support Workers
 Median Wage: \$59,585
 Annual Openings: 13,885
 10-Year Growth: 9%

Human Resources Specialists
 Median Wage: \$61,278
 Annual Openings: 6,239
 10-Year Growth: 23%

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

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



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

Management Entrepreneurship Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
College Readiness	03270100	0.5	EDUC 1100 (S)	1
Elective		0.5		
TOTAL CREDITS		7		1

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Elective		0.5		
Principles of Business	13011200	1	BUSI 1301 (F) SPCH 1318 (S)	3 3
Elective		0.5		
TOTAL Credits		7		6

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III	03220300	1	ENGL 1301 (F)	3
World History		1		
Algebra II		1		
Physics		1		
Business Management	130121100	1	ACCT 1329 (S) BUSI 2301 (F)	3 3
Accounting I	13016600	1	ACCT 1311 (S)	3
P.E. Credit		1		
TOTAL CREDITS		7		12

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics	03310300	0.5	ECON 2301 (F)	3
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
Hum. Res. Mgmt.	13011900	0.5	HRPO 2301 (S)	3
Business Mgmt.	13012100	1	BMGT 1327 (F) BUSG 2309 (S)	3 3
Elective		1		
Elective		0.5		
TOTAL CREDITS		7		12

LIT Course	LIT Course Name
BUSI 1301 *	Business Principles
SPCH 1318 *	Interpersonal Communications
ACCT 1311 *	Intro to Computerized Accounting
BUSI 2301 *	Business Law
ACCT 1329 *	Payroll & Business Tax
HRPO 2301 *	Human Resource Management
BMGT 1327 *	Principles of Management
BUSG 2309 *	Small Business Management
ENGL 1301 **	Composition I (TSI Reading/Writing)
ECON 2301 **	Macroeconomics (TSI Reading/Writing)
EDUC 1100 **	Learning Framework

* Denotes that course is offered online.

^ Denotes that course is Open Source- No Textbook Cost

EDUC 1100 is not required for the Management Entrepreneurship Level 1 Certificate. However, this is a transferrable credit that is recommended before beginning LIT's online degree programs. This is a college readiness course that will prepare students for online learning.

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	31
--------------------------	-----------	--	-----------

Endorsement: Business and Industry
Program of Study: Accounting and Financial Services
Cluster: Business, Marketing, & Finance

Program Information

Students completing this course of study will graduate from LIT with their Management Development Level 1 Certificate, which can be applied to an AAS in Management Entrepreneurship. The two highlighted courses have TSI requirements and are required for this degree. These courses will also prepare students to test for the following industry certifications: Microsoft Office Specialist or Expert- Excel. **This entire program is offered online.**

Education and Training Career Cluster



The Education and Training career cluster focuses on planning, managing, and providing education and training services and related learning support services. This career cluster includes occupations ranging from teaching assistant and classroom teacher to school administrator.

Statewide Program of Study: Early Learning

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



Secondary Courses for High School Credit

- | | |
|----------------|--|
| Level 1 | <ul style="list-style-type: none"> Principles of Education and Training Principles of Human Services |
| Level 2 | <ul style="list-style-type: none"> Child Development Child Development Associate (CDA) Foundations Speech and Language Development |
| Level 3 | <ul style="list-style-type: none"> Child Guidance Speech Communication Disorders |
| Level 4 | <ul style="list-style-type: none"> Practicum in Early Learning Practicum in Early Learning + Extended Practicum in Early Learning Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation Career and Technical Education Project-Based Capstone |

Aligned Advanced Academic Courses

- | | |
|--------------------|--|
| Dual Credit | Dual credit offerings will vary by Local Educational Agency. |
|--------------------|--|

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

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

Aligned Industry-Based Certifications

- Child Development Associate (CDA)
- Early Childhood Education and Care - Advanced
- Early Childhood Education and Care - Basic
- Educational Aide I
- Pre-Professional Certification in Early Childhood Education



Example Postsecondary Opportunities

Apprenticeships

- Child Care Development Specialist

Associate Degrees

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

Bachelor's Degrees

- Elementary Education and Teaching
- Early Childhood and Family Studies

Master's, Doctoral, and Professional Degrees

- Educational Leadership and Administration, General
- Education, General

Additional Stackable IBCs/Licensures

- Certified Child Care Professional



Example Aligned Occupations

Child Care Workers

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

Preschool Teachers, Except Special Education

Median Wage: \$34,127
Annual Openings: 4,148
10-Year Growth: 26%

Elementary School Teachers, Except Special Education

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

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



For more information visit:

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

Suggested CDA Level 1 Certificate Degree Plan

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
P.E. Credit		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Child Development				
Elective		0.5		
TOTAL Credits		6		0

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
Elective		1		
Child Guidance	13024800	2	CDEC 1417 (F)	4
			CDEC 2422 (S)	4
TOTAL CREDITS		7		8

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
Practicum in Early Learning	TBD	1	CDEC 1319 (F)	3
		2	CDEC 2424 (F)	4
			CDEC 1164 (S)	1
TOTAL CREDITS		7		8

ISD Total Credits	27	LIT TOTAL Semester Credit Hours	16
--------------------------	-----------	--	-----------

LIT Course	LIT Course Name
CDEC 1417	CDA I
CDEC 2422	CDA II
CDEC 2424	CDA III
CDEC 1164	Practicum/Field Experience in Child Development (7 hrs./wk.)
CDEC 1319	Child Guidance

Endorsement: Public Service
Program of Study: Early Learning
Cluster: Education and Training

Program Information

Students completing this course of study will graduate from LIT with their Level 1 CDA Certificate. These courses may be used as academic instruction in working toward National Child Development Association (CDA) requirements. This crosswalk is designed to allow time for practical application of skills in the classroom setting. In most cases, ISD teachers can be credentialed as LIT adjuncts to teach these courses. *CDEC 1319 could be offered in 10th grade or in 12th (with practicum). This will depend on how your district chooses to design the pathway.

Education and Training Career Cluster



The Education and Training career cluster focuses on planning, managing, and providing education and training services and related learning support services. All parts of courses are designed to introduce learners to the various careers available within the Education and Training Career Cluster. This Career Cluster includes a diverse spectrum of occupations, ranging from teaching assistant, classroom teacher, to school administrator.

Statewide Program of Study: Teaching and Training

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



Secondary Courses for High School Credit

- Level 1**
 - Principles of Education and Training
 - Principles of Human Services

- Level 2**
 - Human Growth and Development
 - Child Development
 - Communication and Technology in Education

- Level 3**
 - Instructional Practices

- Level 4**
 - Practicum in Education and Training
 - Practicum in Education and Training + Extended Practicum in Education and Training
 - Career Preparation for Programs of Study
 - Career Preparation for Programs of Study + Extended Career Preparation
 - Career and Technical Education Project-Based Capstone

Aligned Advanced Academic Courses

Dual Credit Dual credit offerings will vary by Local Educational Agency.

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

- | | |
|--|---|
| Work-Based Learning Activities | <ul style="list-style-type: none"> • Serve as a camp counselor to learn mentoring, facilitation, and lesson planning skills • Volunteer in a tutoring center to learn lesson planning and skills assessment |
| Expanded Learning Opportunities | <ul style="list-style-type: none"> • Participate in FCCLA • Participate in TAFE |

Aligned Industry-Based Certifications

- Educational Aide I



Example Postsecondary Opportunities

Apprenticeships

- Teacher Apprentice

Associate Degrees

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

Bachelor's Degrees

- Elementary Education and Teaching
- Secondary Education and Teaching

Master's, Doctoral, and Professional Degrees

- Educational Leadership and Administration, General
- Curriculum and Instruction

Additional Stackable IBCs/Licensures

- Generalist, Grades EC-4



Example Aligned Occupations

Teaching Assistants, Except Postsecondary

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

Secondary School Teachers, Except Special Education and CTE

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

Education Administrators, Kindergarten through Secondary

Median Wage: \$81,976
Annual Openings: 2676
10-Year Growth: 14%

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



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

Suggested Associate of Arts in Teaching Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Elective		0.5		
Art I	03500100	1	ARTS 1301 (F)	3
Public Speaking	03240900	0.5	SPCH 1315 (S)	3
TOTAL CREDITS		7		6

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History	03340100	0.5	HIST 1301 (F)	3
		0.5	HIST 1302 (S)	3
Geometry		1		
Biology		1		
Foreign Language II		1		
Prin. of Education and Training	13024200	1	EDUC 1100 (F)	1
Psychology	03350100	0.5	PSYC 2301 (S)	3
Elective		0.5		
TOTAL Credits		7		10

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III	03220300	0.5	ENGL 1301 (F)	3
		0.5	ENGL 1302 (S)	3
World History		1		
Algebra II	03100600	1	MATH 1314 (F)	3
Physics	03050000	1	PHYS 1305 (S)	3
Instructional Practices	13024200	2	EDUC 1301 (F)	3
			EDUC 2301 (S)	3
PE		1		
TOTAL CREDITS		7		18

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV	03220400	0.5	ENGL 2321 (F)	3
		0.5		
US Government	03330100	0.5	GOVT 2305 (F)	3
Spec. Top. in SS 1	03380002	0.5	GOVT 2306 (S)	3
Pre-Cal/ 4th Math		1	MATH 1350 (F)	3
			MATH 1351 (S)	3
Anatomy & Physiology	13020600	1	BIOL 2301/2101 (F)	4
			BIOL 2302/2102 (S)	4
Economics		0.5		
Practicum in Education and Training	13014500	2		
Lifetime Nutrition and Wellness	13024500	0.5	BIOL 1322 (S)	3
TOTAL CREDITS		7		26

LIT Core Courses	LIT Core Course Names
EDUC 1100 *^	Learning Framework
ARTS 1301 *^	Art Appreciation
HIST 1301/1302 *^	United States History I & II
SPCH 1315 *^	Public Speaking
PSYC 2301 *^	General Psychology
ENGL 1301/1302 *^	Composition I & II
MATH 1314 *^	College Algebra
ENGL 2321 *^	British Literature
GOVT 2305 *^	Federal Government
GOVT 2306 *^	Texas Government
BIOL 2301/2101 *^	Anatomy and Physiology I
BIOL 2302/2102 *^	Anatomy and Physiology II

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	60
--------------------------	-----------	--	-----------

EDUC 1100 is not required for the Associates of Arts in Teaching. However, this is a transferrable credit that is recommended before beginning LIT's online degree programs. This is a college readiness course that will prepare students for online learning.

Courses	LIT Courses to Complete Teaching AS
EDUC 1301 *	Introduction to Education
EDUC 2301 *^	Special Populations
BIOL 1322 *^	Nutrition & Diet Therapy
PHYS 1305 *^	Elementary Physics I
MATH 1350 *^	Math for Teachers
MATH 1351 *	Math for Teachers

Endorsement: Public Service
Program of Study: Early Learning
Cluster: Education and Training

* Denotes courses that are offered online.

^ Denotes that course is Open Source- No Textbook Cost

Program Information

Students completing this course of study will graduate from Lamar Institute of Technology with an Associate of Arts in Teaching, which is designed for students who wish to take courses for academic transfer in education. This degree provides Core Curriculum that will transfer to four year institutions and coincides with the first two years of most baccalaureate education degree plans. **This entire plan is offered online.**

Energy Career Cluster

The Energy career cluster prepares individuals for careers in the designing, processing, planning, maintaining, generating, transmission, and distribution of traditional and alternative energy. This career cluster includes occupations ranging from petroleum engineers, rotary drill operators, chemical technicians and, power plant operators to solar photovoltaic installers and wind turbine service technicians.

Statewide Program of Study: Refining and Chemical Processes

The Refining and Chemical Processes program of study focuses on occupational and educational opportunities associated with how to monitor, adjust, and operate equipment housed in petrochemical plants and refineries. This program of study includes exploration of computer technology and instrumentation used to operate a variety of systems and industrial processes.



Secondary Courses for High School Credit

- | | |
|----------------|---|
| Level 1 | <ul style="list-style-type: none"> Principles of Distribution and Logistics Foundations of Energy |
| Level 2 | <ul style="list-style-type: none"> Introduction to Process Technology Introduction to Instrumentation and Electrical |
| Level 3 | <ul style="list-style-type: none"> Petrochemical Safety, Health, and Environment Advanced Instrument and Electrical |
| Level 4 | <ul style="list-style-type: none"> Applied Mathematics for Technical Professionals Career and Technical Education Project-Based Capstone Practicum in Energy Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation |

Aligned Advanced Academic Courses

AP or IB	AP Chemistry IB Chemistry Standard Level
Dual Credit	Dual credit offerings will vary by Local Education Agency.

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count toward Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Shadow a chemical technician in a laboratory at a chemical manufacturing plant Intern at a power plant to learn about industrial processes and plant operations
Expanded Learning Opportunities	<ul style="list-style-type: none"> Tour a refining and chemical plant Participate in SkillsUSA

Industry-Based Certifications

- NCCER Core
- NCCER Electronic System Technician Level I
- NCCER Instrumentation Level I
- Certified Production Technician (CPT) 4.0
- Lean Six Sigma Green Belt Certification
- Industrial Technology Maintenance (ITM) - Process Control Systems



Postsecondary Opportunities

Associate Degrees

- Chemical Process Technology
- Instrumentation Technology/Technician
- Manufacturing Engineering Technology/Technician
- Industrial Technology/Technician

Bachelor's Degrees

- Chemical Engineering
- Engineering/Industrial Management
- Industrial Engineering
- Manufacturing Engineering

Master's, Doctoral, and Professional Degrees

- Mechanical Engineering
- Chemical Engineering
- Engineering/Industrial Management
- Industrial Engineering



Example Aligned Occupations

Chemical Technicians

Median Wage: \$58,129
Annual Openings: 892
10-Year Growth: 17%

Power Plant Operators

Median Wage: \$94,669
Annual Openings: 231
10-Year Growth: 3%

Petroleum Engineers

Median Wage: \$134,225
Annual Openings: 1,443
10-Year Growth: 27%

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



For more information visit:

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

Suggested Process Technology Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
Elective		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Electives		1.5		
TOTAL Credits		7		0

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
PE		1		
Introduction to Process Technology	N1300262	1	PTAC 1302 (F)	3
			PTAC 2314 (F)	3
Petro, Safety Health & Envir	N1300264	1	PTAC 1408 (S)	4
TOTAL CREDITS		7		10

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
Elective		1		
4th Science		1		
Practicum in Energy		2	PTAC 1410 (F)	4
			PTAC 1332 (S)	3
TOTAL CREDITS		7		7

LIT Course	LIT Course Name
PTAC 1302 *	Intro to Process Technology
PTAC 1408 *	Safety Health and Equipment
PTAC 2314 *	Quality
PTAC 1410	Process Technology I- Equipment
PTAC 1332	Instrumentation

* Denotes that the course is offered online.

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	17
--------------------------	-----------	--	-----------

Endorsement: Business and Industry
Program of Study: Refining and Chemical Processes
Cluster: Energy

Program Information

Students completing this course of study will graduate from LIT with their Process Operating Technology Level 1 Certificate, which can be applied to an AAS in Process Operating Technology. Courses taken in year one of this program are offered online. However, courses taken during the senior year have a heavy lab component and arrangements must be made to attend LIT for lab days.

Suggested Instrumentation Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
Elective		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech/Elective		1		
Electives		1.5		
TOTAL Credits		7.5		0

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
PE		1		
Foundations of Energy	N1300263	1	CETT 1403 (F)	4
Intro. Instrumentation & Electrical	N1303900	1	CETT 1405 (S)	4
TOTAL CREDITS		7		8

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
Elective		1		
4th Science		1		
Adv. Instrumentation & Electrical	TBD	2	CETT 1415 (F)	4
			CETT 1441 (S)	4
TOTAL CREDITS		7		8

ISD Total Credits	28.5	LIT TOTAL Semester Credit Hours	16
--------------------------	-------------	--	-----------

LIT Course	LIT Course Name
CETT 1403	DC Circuits
CETT 1405	AC Circuits
CETT 1415	Digital Applications
CETT 1441	Solid State Circuits

Endorsement: Business and Industry
Program of Study: Refining and Chemical processes
Cluster: Energy

Program Information

Students completing this course of study will have four courses left to complete to obtain their Level 1 Instrumentation Certificate from LIT. This can be completed in one semester - and in some cases the summer following graduation. This award can be applied to the AAS of Instrumentation. Foundations of Energy and Intro. Instrumentation & Electrical MUST be scheduled together as a block to accommodate lab requirements. All courses are taught in person. The ISD instructor may be able to be credentialed to teach these courses.

Health Science Career Cluster

Revised – March 2024



The Health Science career cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.

Statewide Program of Study: **Health Informatics**

The Health Informatics program of study focuses on occupational and educational opportunities associated with the management and use of patient information in the healthcare field. This program of study includes exploration of computerized healthcare systems and the process of creating and maintaining hospital and patient records in accordance with regulatory requirements of the healthcare system. Students will also practice writing and interpreting medical reports.



Secondary Courses for High School Credit

- | | |
|----------------|---|
| Level 1 | <ul style="list-style-type: none"> Principles of Health Science Principles of Health Informatics Business Information Management I Business Information Management I + Business Lab |
| Level 2 | <ul style="list-style-type: none"> Medical Terminology Medical Intervention Evaluation and Research Public Health (TBD) |
| Level 3 | <ul style="list-style-type: none"> Health Informatics Healthcare Administration and Management Health Science Theory Health Science Theory + Health Science Clinical |
| Level 4 | <ul style="list-style-type: none"> World Health and Emerging Technologies Mathematics for Medical Professionals Medical Billing and Coding Practicum in Health Science Practicum in Health Science + Extended Practicum in Health Science Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation Career and Technical Education Project-Based Capstone |

Aligned Advanced Academic Courses

AP or IB	AP Statistics
Dual Credit	Dual credit offerings will vary by Local Education Agency.

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Intern with a medical records specialist or health services manager Job shadow a medical services manager to understand how services and facilities are managed
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in HOSA, DECA, SkillsUSA, or BPA

Aligned Industry-Based Certifications

- Certified Billing and Coding Specialist (CBCS)
- Certified Coding Associate
- Insurance and Coding Specialist
- Medical Coding and Billing Specialist
- Nationally Certified Medical Coding and Billing Specialist



Example Postsecondary Opportunities

Apprenticeships

- Medical Coder

Associate Degrees

- Health Information/Medical Records Technology
- Medical Assisting

Bachelor's Degrees

- Nursing Administration
- Medical Insurance Coding

Master's, Doctoral, and Professional Degrees

- Nursing Administration
- Hospital and Health Care Facilities Administration

Additional Stackable IBCs/Licensures

- Consumer Health Information Specialization – Level I



Example Aligned Occupations

Medical Secretaries/ Administrative Assistants

Median Wage: \$36,994
Annual Openings: 10,505
10-Year Growth: 21%

Medical Records Specialists

Median Wage: \$39,408
Annual Openings: 2,763
10-Year Growth: 18%

Medical and Health Services Managers

Median Wage: \$102,937
Annual Openings: 4,787
10-Year Growth: 43%

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



For more information visit:

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

Health Informatics Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
College Readiness	03270100	0.5	EDUC 1100 (S)	1
Elective		0.5		
TOTAL CREDITS		7		1

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Med. Terminology	13020300	1	HITT 1305 (F)	3
			HITT 1253 (S)	2
Elective		0.5		
TOTAL Credits		7		5

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
BIM	13011400	1	BCIS 1301 (F)	3
			HITT 1311 (S)	2
Principles of Health Informatics	N1302108	1	HITT 1301 (F)	3
			HITT 1213 (S)	2
PE		1		
TOTAL CREDITS		7		10

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
*Health Informatics	13020960	1	HITT 1345 (F)	3
*Project-Based Res.	12701500	1	HITT 2266 (S)	2
Elective		1		
TOTAL CREDITS		7		5

LIT Course	LIT Course Name
HITT 1305 *	Medical Terminology I
HITT 1345 *	Health Care Delivery Systems
HITT 1301 *	Health Data Content and Structure
BCIS 1301 *	Business Computer Applications
HITT 1311 *	Health Information Systems
HITT 1213 *	Coding and Insurance
HITT 1253 *	Legal and Ethical Aspects of Health Info.
HITT 2266 *	Practicum I
EDUC 1100 *	Learning Frameworks

*Denotes that the course is offered online

EDUC 1100 is not required for the Health Informatics Level 1 Certificate. However, this is a transferrable credit that is recommended before beginning LIT's online degree programs. This is a college readiness course that will prepare students for online learning.

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	21
--------------------------	-----------	--	-----------

Endorsement: Public Service
Program of Study: Health Informatics
Cluster: Health Science

Program Information

*Courses in the senior year must be scheduled together to permit adequate time for spring semester practicum. Students completing this course of study will graduate from LIT with their Health Informatics Level 1 Certificate. This is a stackable credential that can be applied to the AAS in Health Information Technology.

Health Science Career Cluster



The Health Science career cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.

Statewide Program of Study: *Diagnostic and Therapeutic Services*

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

Secondary Courses for High School Credit



Level 1	<ul style="list-style-type: none"> Principles of Health Science Principles of Diagnostic Healthcare Principles of Therapeutic Healthcare Principles of Allied Health Introduction to Dental Science Introduction to Imaging Technology Introduction to Pharmacy Science
Level 2	<ul style="list-style-type: none"> Medical Terminology Allied Health Therapeutic Services Dental Anatomy and Physiology Disaster Response Imaging Technology I Pharmacy I
Level 3	<ul style="list-style-type: none"> Anatomy and Physiology Medical Microbiology Medical Assistant Emergency Medical Technician–Basic Clinical Ethics Dental Equipment and Procedures Health Science Theory Health Science Theory+Health Science Clinical Respiratory Therapy I Imaging Technology II Pharmacy II
Level 4	<ul style="list-style-type: none"> Mathematics for Medical Professionals Pathophysiology Pharmacology Respiratory Therapy II Optical Technician Sterile Processing (TBD) Practicum in Health Science Practicum in Health Science + Extended Practicum in Health Science Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation

Aligned Advanced Academic Courses

AP or IB	AP Biology IB Biology SL IB Biology HL	AP Chemistry IB Chemistry SL IB Chemistry HL
Dual Credit	Dual credit offerings will vary based on Local Education Agency.	

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

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

Aligned Industry-Based Certifications

- Certified Cardiographic Technician
- Certified Clinical Medical Assistant
- Certified Dental Assistant
- Certified EKG Technician
- Certified Nurse Aide (CNA)
- Certified Occupational Therapy Assistant
- Certified Patient Care Technician (CPCT)
- ECG Technician
- Emergency Medical Technician–Basic
- Limited Medical Radiologic Technologist
- Medical Assistant
- Medical Laboratory Assistant
- Medical Laboratory Technician
- Nationally Registered Certified EKG Technician
- Patient Care Technician
- Pharmacy Technician
- Phlebotomy Technician
- Registered Dental Assistant X-Ray Certification
- Emergency Medical Responder
- Certified Respiratory Therapist



Example Postsecondary Opportunities

Apprenticeships

- Medical Assistant

Associate Degrees

- Emergency Medical Technology
- Radiologic Technology/Science

Bachelor's Degrees

- Emergency Medical Technology
- Medical Insurance Coding

Master's, Doctoral, and Professional Degrees

- Medicine
- Occupational Therapy

Additional Stackable IBCs/Licensures

- Registered Diagnostic Medical Sonographer



Example Aligned Occupations

Medical Assistants

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

Dental Hygienists

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

Physician Assistants

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

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



For more information visit:

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

Suggested Pharmacy Tech Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
PE		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Electives		1.5		
TOTAL Credits		7		0

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
Intro to Pharmacy Science	N1302103	1	PHRA 1301 (F)	3
			PHRA 1202 (S)	2
Pharmacy I	TBD	1	PHRA 1240 (F)	2
			PHRA 1209 (S)	2
Elective		1		
TOTAL CREDITS		7		9

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
Elective		1		
Pharmacy II		2	PHRA 1313 (F)	3
			PHRA 1160 (S)	1
TOTAL CREDITS		7		4

LIT Course	LIT Course Name
PHRA 1301	Introduction to Pharmacy
PHRA 1202	Pharmacy Law
PHRA 1240	Pharmacy 3rd Party Payment
PHRA 1209	Pharmaceutical Mathematics I
PHRA 1313	Community Pharmacy Practice
PHRA 1160	Clinical- Pharmacy Tech/Assistant

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	13
--------------------------	-----------	--	-----------

Endorsement: Public Service
Program of Study: Diagnostic and Therapeutic Services
Cluster: Health Science

Program Information

Students completing this course of study will have completed the first semester of the Pharmacy Technician program at LIT. * Intro to Pharm. and Pharm. I MUST be scheduled together as a block to accommodate lab requirements. All courses are taught in person and can be taken at LIT. In some cases, ISD CTE instructors who are currently teaching these courses can be credentialed as LIT adjuncts to teach these courses.

Health Science Career Cluster



The Health Science career cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.

Statewide Program of Study: **Nursing Science**

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



Secondary Courses for High School Credit

- | | |
|----------------|--|
| Level 1 | <ul style="list-style-type: none"> Principles of Health Science Principles of Nursing Science |
| Level 2 | <ul style="list-style-type: none"> Science of Nursing Medical Terminology |
| Level 3 | <ul style="list-style-type: none"> Health Science Theory Health Science Theory + Health Science Clinical Anatomy and Physiology Medical Microbiology Leadership and Management in Nursing Clinical Ethics |
| Level 4 | <ul style="list-style-type: none"> Pathophysiology Pharmacology Practicum in Nursing Practicum in Health Science Practicum in Health Science + Extended Practicum in Health Science Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation |

Aligned Advanced Academic Courses

AP or IB	AP Biology	AP Chemistry
	IB Biology SL	IB Chemistry SL
	IB Biology HL	IB Chemistry HL
Dual Credit	Dual credit offerings will vary by Local Education Agency.	

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

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

Aligned Industry-Based Certifications

- | | |
|---|---|
| <ul style="list-style-type: none"> Certified Clinical Medical Assistant Certified Nurse Aide (CNA) Certified Patient Care Technician (CPCT) Licensed Vocational Nurse | <ul style="list-style-type: none"> Medical Assistant Patient Care Technician Phlebotomy Technician Registered Nurse |
|---|---|



Example Postsecondary Opportunities

Apprenticeships

- Registered Nurse Resident



Associate Degrees

- Medical Assisting
- Vocational Nursing

Bachelor's Degrees

- Registered Nursing
- Nursing Administration

Master's, Doctoral, and Professional Degrees

- Nursing Administration
- Nursing Science

Additional Stackable IBCs/Licensures

- Certified Nursing Assistant



Example Aligned Occupations

Nursing Assistants

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

Licensed Practical and Licensed Vocational Nurses

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

Registered Nurses

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

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



For more information visit:

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

Associate of Science in Health Science (Nursing Track) Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Elective		0.5		
College Readiness	03270100	0.5	EDUC 1100 (S)	1
Art I	03500100	1	ARTS 1301 (F)	3
TOTAL CREDITS		7		4

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History	03340100	0.5	HIST 1301 (F)	3
		0.5	HIST 1302 (S)	3
Geometry		1		
Biology		1		
Foreign Language II		1		
Elective		0.5		
Public Speaking	03240900	0.5	SPCH 1315 (F)	3
Prin. of Health Sci	13020200	1	HPRS 1204 (F)	2
TOTAL Credits		7		11

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III	03220300	0.5	ENGL 1301 (F)	3
		0.5	ENGL 1302 (S)	3
World History		1		
PE		1		
Algebra II	03100600	1	MATH 1314 (F)	3
Psychology	03350100	0.5	PSYC 2314	3
Anatomy & Physiology	13020600	1	BIOL 2301/2101 (F)	4
			BIOL 2302/2102 (S)	4
Electives		1.5		
TOTAL CREDITS		7		20

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV	03220400	0.5	ENGL 2321 (F)	3
		0.5		
Economics	03310300	0.5	ECON 2301 (F)	3
US Government	03330100	0.5	GOVT 2305 (F)	3
Electives		1.5		
Statistics	03102530	1	MATH 1342 (F)	3
AP Chemistry	A3040000	1	CHEM 1306/1106 (S)	4
Spec. Top. in SS 1	03380002	0.5	GOVT 2306 (S)	3
Medical Microbiology	13020700	1	BIOL 2320/2120 (F)	4
			BIOL 1332 (S)	3
TOTAL CREDITS		7		26

LIT Core Courses	LIT Core Course Names
EDUC 1100*^	Learning Framework
ARTS 1301*^	Art Appreciation
HIST 1301/1302*^	United States History I & II
SPCH 1315*^	Public Speaking
ENGL 1301/1302*^	Composition I & II
MATH 1314*^	College Algebra
ENGL 2321*^	British Literature
ECON 2301*^	Principles of Macroeconomics
GOVT 2305*^	Federal Government
GOVT 2306*^	Texas Government
BIOL 2301/2101*^	Anatomy and Physiology I
BIOL 2302/2102*^	Anatomy and Physiology II

LIT Courses	LIT Courses to Complete Biological Sciences AS
BIOL 1306/1106	Biology for Science Majors I
BIOL 1307/1107	Biology for Science Majors II
BIOL 2320/2120	Microbiology
MATH 1342	Elementary Statistics
HPRS 1204	Basic Health Professions Skills
BIOL 1332	Principles of Nutrition
PSYC 2314*^	Lifespan Growth & Development
CHEM 1306/1106	Intro to Chemistry I/Lab

* Denotes that course is offered online

^ Denotes that course is Open Source- No Textbook Cost

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	61
--------------------------	-----------	--	-----------

Endorsement: Public Service
Program of Study: Healthcare Therapeutic
Cluster: Health Science

Program Information
Students completing this course of study will graduate from Lamar Institute of Technology with an Associate of Science in Health Science-Nursing Track, which is designed for students who wish to take courses for academic transfer into a nursing program. This degree provides Core Curriculum that will transfer to four year institutions and coincides with the first two years of most baccalaureate nursing programs.



Human Services Career Cluster

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. This career cluster includes occupations ranging from community health workers to cosmetologists and nutritionists.

Regional Program of Study: *Cosmetology and Personal Care Services*

The Cosmetology and Personal Care Services regional program of study focuses on occupational and educational opportunities associated with providing beauty and personal care services. This program of study includes managing personal care facilities and coordinating or supervising personal service workers.



Secondary Courses for High School Credit

- | | |
|----------------|--|
| Level 1 | <ul style="list-style-type: none"> Principles of Cosmetology Design and Color Theory Microbiology and Safety for Cosmetology Careers |
| Level 2 | <ul style="list-style-type: none"> Introduction to Cosmetology Nail Care, Enhancements, and Spa Services Esthetics Entrepreneurship I |
| Level 3 | <ul style="list-style-type: none"> Cosmetology I Cosmetology I + Cosmetology I Lab Barbering I |
| Level 4 | <ul style="list-style-type: none"> Cosmetology II Cosmetology II + Cosmetology II Lab Barbering II Practicum in Entrepreneurship Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation |



Example Postsecondary Opportunities

Apprenticeships

- Apprentice Stylist

Associate Degrees

- Cosmetology Operator
- Esthetics and Skin Care

Additional Stackable IBCs/Licensures

- Class A Barber
- Eye lash Extension Specialist
- Hair Weaving Specialist



Aligned Advanced Academic Courses

Dual Credit Dual credit offerings will vary by Local Educational Agency.

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Work part-time in a salon, spa, or barbershop Participate in an apprenticeship at a salon to become an apprentice stylist
Expanded Learning Opportunities	<ul style="list-style-type: none"> Tour a salon, spa, or barbershop Participate in SkillsUSA

Aligned Industry-Based Certifications

- Barber Operator License
- Cosmetology Manicurist License
- Cosmetology Esthetician License
- Cosmetology Operator License

Example Aligned Occupations



Hairdressers, Hairstylists, and Cosmetologists

Median Wage: \$27,286
Annual Openings: 8,014
10-Year Growth: 25%

Skincare Specialists

Median Wage: \$35,112
Annual Openings: 778
10-Year Growth: 38%

First-Line Supervisors of Personal Service Workers

Median Wage: \$36,795
Annual Openings: 2,253
10-Year Growth: 29%

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



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

Suggested Cosmetology Operator Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
P.E. Credit		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Electives		1.5		
TOTAL Credits		7		0

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
Principles of Cosmetology	13025050	1	CSME 1401 (F)	4
			CSME 1354 (F)	3
Introduction to Cosmetology	13025100	1	CSME 1410 (S)	4
			CSME 1453 (S)	4
Elective		1		
TOTAL CREDITS		7		15

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
Cosmetology II/ Lab	13025200	2	CSME 2310 (F)	3
			CSME 2501 (F)	5
			CSME 1355 (S)	3
			CSME 2441 (S)	4
Elective		1		
TOTAL CREDITS		7		15

LIT Course	LIT Course Name
CSME 1401	Orientation to Cosmetology
CSME 1354	Artistry of Hair Design
CSME 1410	Introduction to Haircutting and Related Theory
CSME 1453	Chemical Reformation and Related Theory
CSME 2310	Advanced Haircutting and Related Theory
CSME 2501	Principles of Hair Coloring and Related Theory
CSME 1355	Artistry of Hair Design II
CSME 2441	Preparation for the State Licensing Examination

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	30
--------------------------	-----------	--	-----------

Endorsement: Public Service
Program of Study: Cosmetology and Personal Care Services
Cluster: Human Services

Program Information
Students completing this course of study will graduate from LIT with their Cosmetology Operator Level 1 Certificate. In most cases, ISD CTE Instructors who are currently teaching these courses can be credentialed as LIT adjuncts to teach these courses.



Hospitality and Tourism Career Cluster

The Hospitality and Tourism career cluster focuses on the management, marketing, and operations of restaurants, lodging, attractions, recreation events, and travel-related services. This career cluster includes occupations ranging from reservation and transportation ticket agent to event planner and general manager.

Statewide Program of Study: Culinary Arts

The Culinary Arts program of study focuses on occupational and educational opportunities associated with the planning, directing, or coordinating activities of a food and beverage organization or department. This program of study includes opportunities involved in directing and participating in the preparation of food.



Secondary Courses for High School Credit

Level 1	<ul style="list-style-type: none"> Principles of Hospitality and Tourism Introduction to Culinary Arts
Level 2	<ul style="list-style-type: none"> Culinary Arts Entrepreneurship I Food Technology and Safety Foundations of Restaurant Management
Level 3	<ul style="list-style-type: none"> Advanced Culinary Arts Introduction to Event and Meeting Planning Tourism Marketing Concepts and Applications Food Processing + Agricultural Laboratory and Field Experience
Level 4	<ul style="list-style-type: none"> Food Science Practicum in Entrepreneurship Practicum in Culinary Arts Practicum in Culinary Arts + Extended Practicum in Culinary Arts Practicum in Event and Meeting Planning Practicum in Hospitality Services Practicum in Hospitality Services + Extended Practicum in Hospitality Services Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation

Aligned Advanced Academic Courses

AP or IB	AP Chemistry IB Chemistry SL
Dual Credit	Dual credit offerings will vary by Local Educational Agency.

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> Shadow a director of a non-profit that produces and delivers food for communities in need Intern at a catering company and learn about food production for large-scale events Work part-time in a restaurant as a line cook or chef
Expanded Learning Opportunities	<ul style="list-style-type: none"> Participate in FCCLA Participate in SkillsUSA Participate in American Culinary Association or the Texas Restaurant Association

Aligned Industry-Based Certifications

- Certified Fundamentals Cook
- Certified Fundamentals Pastry Cook
- Certified Hospitality and Tourism Management Professional
- Commercial Foods
- Culinary Meat Selection and Cookery Certification
- Food Protection Manager Certification
- Food Safety and Science Certification
- ManageFirst Professional
- Pre-Professional Certification in Culinary Arts
- Pre-Professional Certification in Food Science Fundamentals
- ServSafe Manager

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



Example Postsecondary Opportunities

Associate Degrees

- Culinary Arts
- Baking and Pastry Arts

Bachelor's Degrees

- Hotel/Motel Administration/Management
- Culinary Science

Master's, Doctoral, and Professional Degrees

- Organizational Leadership
- Foodservice Systems Administration/Management

Additional Stackable IBCs/Licensures

- Food Manager License



Example Aligned Occupations

Bakers

Median Wage: \$29,466
Annual Openings: 2,942
10-Year Growth: 26%

Chefs and Head Cooks

Median Wage: \$44,761
Annual Openings: 950
10-Year Growth: 37%

General and Operations Managers

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

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



For more information visit:

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

Suggested Culinary Arts Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
P.E. Credit		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language 2		1		
Speech		0.5		
Elective		0.5		
Intro to Culinary Arts	13022550	1	CHEF 1205 (F)	2
TOTAL Credits		7		2

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra 2		1		
Physics		1		
Elective		1		
Culinary Arts	13022600	2	CHEF 1401 (F) IFWA 1318 (S)	4 3
TOTAL CREDITS		7		7

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
Advanced Culinary Arts	13022650	2	PSTR 1301 (F) RSTO 1313 (S)	3 3
Elective		1		
TOTAL CREDITS		7		6

LIT Course	LIT Course Name
CHEF 1205	Sanitation and Safety
CHEF 1401	Basic Food Preparation
PSTR 1301	Fundamentals of Baking
IFWA 1318	Nutrition for Food Service Professionals
RSTO 1312	Hospitality Supervision

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	15
--------------------------	-----------	--	-----------

Endorsement: Business and Industry
Program of Study: Culinary Arts
Cluster: Hospitality and Tourism

Program Information
<p>All courses are taught in person. Students completing this course of study will graduate from LIT with their Culinary Arts Level 1 Certificate. Students will also earn their ServSafe certificate while in this course. All courses are taught in person. In some cases, ISD CTE instructors that are currently teaching these courses can be credentialed as LIT adjuncts to teach these courses. These courses will also prepare students to test for several ASE industry certifications. NOTE: There is a heavy equipment requirement for this program. Please contact LIT for details of equipment needs if you would like to offer this program at your site. * For a 2-year program option, CHEF 1205 can be taught with CHEF 1401 in first semester of program.</p>

Information Technology Career Cluster

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

Statewide Program of Study: Networking Systems

The Networking Systems program of study focuses on occupations and educational opportunities associated with designing and implementing computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. This program of study includes analysis of data processing challenges to implementing and improving computer systems.



Secondary Courses for High School Credit

- | | |
|----------------|---|
| Level 1 | <ul style="list-style-type: none"> Principles of Information Technology Fundamentals of Computer Science |
| Level 2 | <ul style="list-style-type: none"> Internetworking Technologies I (Cisco) Computer Science I Computer Maintenance Computer Maintenance + Computer Maintenance Lab AP Computer Science Principles |
| Level 3 | <ul style="list-style-type: none"> Internetworking Technologies II (Cisco) Advanced Cloud Computing Networking Networking + Networking Lab |
| Level 4 | <ul style="list-style-type: none"> Independent Study In Technology Applications Independent Study in Evolving/Emerging Technologies Practicum in Information Technology Practicum in Information Technology + Extended Practicum in Information Technology Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation Career and Technical Education Project-Based Capstone |

Aligned Advanced Academic Courses

Dual Credit Dual credit offerings will vary by Local Education Agency.

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Intern at a local education, public service, or technology organization to develop skills in installing hardware and software
- Interview a network administrator to learn about their career path and what credentials they earned to be successful in their role

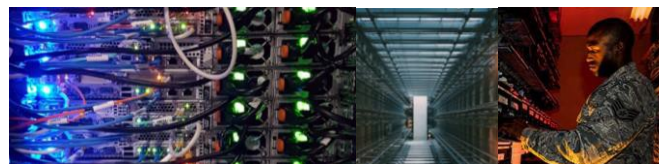
Expanded Learning Opportunities

- Participate in a Hackathon
- Participate in TSA or SkillsUSA

Aligned Industry-Based Certifications

- Cisco 100-490 RSTech Supporting Cisco Routing and Switching Network Devices
- Cisco CCNA (200-301) Implementing and Administering Cisco Solutions
- CompTIA A+ Certification
- CompTIA IT Fundamentals+
- CompTIA Network+
- CompTIA Server+
- Computer Networking Fundamentals - Job Ready
- Google Cloud Certified Professional - Cloud Architect
- Google Cloud Certified Professional - Cloud Architect
- Information Technology Specialist: Networking
- Microsoft 365 Fundamentals
- Microsoft Azure Data Fundamentals
- Microsoft Security, Compliance, and Identity Fundamentals
- Cloud Essentials+
- CompTIA Linux+
- Cybersecurity Fundamentals

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



Example Postsecondary Opportunities

Apprenticeships

- Network Engineer Apprenticeship

Associate Degrees

- Computer Systems Networking and Telecommunications
- Network and System Administration

Bachelor's Degrees

- Computer and Information Sciences
- Information Technology

Master's, Doctoral, and Professional Degrees

- Computer Science
- Information Technology

Additional Stackable IBCs/Licensures

- Aruba Certified Mobility Associate (ACMA)

Example Aligned Occupations

Computer Network Support Specialists

Median Wage: \$65,646
Annual Openings: 1,634
10-Year Growth: 19%

Computer Systems Analysts

Median Wage: \$101,716
Annual Openings: 4,985
10-Year Growth: 19%

Network and Computer Systems Administrators

Median Wage: \$85,375
Annual Openings: 2,900
10-Year Growth: 20%

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



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

Suggested Computer Support Technology Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
P.E. Credit		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Electives		1.5		
TOTAL Credits		7		0

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
Computer Maintenance/Lab	13027310	2	CPMT 1311 (F)	3
			ITNW 1308 (F)	3
			ITSY 1342 (S)	3
			ITNW 1313 (S)	3
Elective		1		
TOTAL CREDITS		7		12

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
Networking/Lab	13027410	2	ITCC 1314 (F)	3
			CPMT 2333 (F)	3
			ITCC 1344 (S)	3
			ITMT 1305 (S)	3
4th Science		1		
Elective		1		
TOTAL CREDITS		7		12

LIT Course	LIT Course Name
CPMT 1311	Introduction to Computer Maintenance
ITNW 1308 *	Implementing and Supporting COS
ITSY 1342 *	Information Technology Security
ITNW 1313	Computer Virtualization
ITCC 1314	CCNA 1: Intro to networks
CPMT 2333 *	Computer Integration
ITCC 1344	CCNA 2: Switching, Routing, and Wireless Essentials
ITMT 1305	Configuring Advanced Windows OS

* Denotes that course is offered online.

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	24
--------------------------	-----------	--	-----------

Endorsement: Business and Industry
Program of Study: Networking Systems
Cluster: Information Technology

Program Information

Students completing this course of study will graduate from LIT with their Level 1 Computer Support Technology Certificate. This award can be applied to the AAS of Computer Networking and Troubleshooting Technology at LIT for those who wish to continue on this path. In most cases, ISD CTE instructors who are currently teaching these courses can be credentialed as LIT adjuncts to teach these courses. These courses will also prepare students to test for the following industry certifications: Cisco Certified Entry Networking Technician, Comp TIA A+, Comp TIA Net+, and Comp TIA Net+

Information Technology Career Cluster



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

Statewide Program of Study: Cybersecurity

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



Secondary Courses for High School Credit

- | | |
|----------------|---|
| Level 1 | <ul style="list-style-type: none"> Principles of Information Technology Fundamentals of Computer Science Foundations of Cybersecurity |
| Level 2 | <ul style="list-style-type: none"> Computer Science I Internetworking Technologies I (Cisco) Computer Maintenance Computer Maintenance/Computer Maintenance Lab AP Computer Science Principles |
| Level 3 | <ul style="list-style-type: none"> Engineering Applications of Computer Science Principles Internetworking Technologies II (Cisco) Advanced Cloud Computing Digital Forensics Discrete Mathematics for Computer Science Networking Networking/Networking Lab AP Computer Science A IB Computer Science Standard Level IB Computer Science Higher Level |
| Level 4 | <ul style="list-style-type: none"> Cybersecurity Capstone Independent Study In Technology Applications Independent Study in Evolving/Emerging Technologies Practicum in Information Technology Practicum in Information Technology + Extended Practicum in Information Technology Practicum in Science, Technology, Engineering, and Mathematics Practicum in Science, Technology, Engineering, and Mathematics + Extended Practicum in Science, Technology, Engineering, and Mathematics Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation Career and Technical Education Project-Based Capstone |

Aligned Advanced Academic Courses

AP or IB	AP Computer Science A AP Computer Science Principles
Dual Credit	Dual credit offerings will vary by Local Education Agency.

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

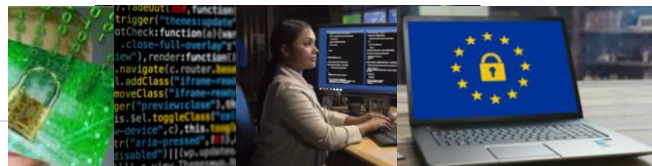
Work-Based Learning and Expanded Learning Opportunities

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

Aligned Industry-Based Certifications

- | | |
|---|---|
| <ul style="list-style-type: none"> Cisco 100-490 RSTech Supporting Cisco Routing and Switching Network Devices Cisco 200-201 CBROPS - Understanding Cisco Cybersecurity Operations Fundamentals Cisco CCNA (200-301) Implementing and Administering Cisco Solutions CodeHS Cybersecurity Level 1 Certification CompTIA A+ Certification CompTIA IT Fundamentals+ CompTIA Network+ CompTIA Security+ Computer Networking Fundamentals - Job Ready | <ul style="list-style-type: none"> Cybersecurity Fundamentals Cybersecurity Fundamentals: An ISACA Certificate Information Technology Specialist: Networking Information Technology Specialist: Java Information Technology Specialist: JavaScript Microsoft 365 Fundamentals Microsoft Security, Compliance, and Identity Fundamentals Oracle Certified Associate Java SE 8 Programmer Cloud Essentials+ CompTIA Linux+ CompTIA Server+ |
|---|---|

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



Examples Postsecondary Opportunities

Associate Degrees

- Computer and Information Systems Security
- Computer Programming



Bachelor's Degrees

- Computer Science
- Computer Software Engineering

Master's, Doctoral, and Professional Degrees

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

Additional Stackable IBCs/Licensures

- Certified Ethical Hacker (CEH)



Example Aligned Occupations

Computer User Support Specialists

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

Software Developers

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

Information Security Analysts

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

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



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

Suggested Cybersecurity Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
P.E. Credit		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Elective		0.5		
Foundations of Cybersecurity	03580850	1	CPMT 2333 (F)	3
			ITSY 1342 (S)	3
TOTAL Credits		7		6

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
Elective		1		
Networking	13027400	1	ITCC 1314 (F)	3
			ITCC 1344 (S)	3
Elective		1		
TOTAL CREDITS		7		6

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
Elective		1		
Digital Forensics	03580360	1	ITDF 1300 (F)	3
			ITSY 2330 (S)	3
Cybersecurity	3580855	1	ITSC 1316 (F)	3
			ITSY 2301 (S)	3
TOTAL Credits		7		12

LIT Course	LIT Course Name
CPMT 2333 *	Computer Integration
ITSY 1342 *	Information Technology Security
ITCC 1314	CCNA 1: Intro to Networks
ITCC 1344	CCNA 2: Switching, Routing, and Wireless Essentials
ITDF 1300	Introduction to Digital Forensics
ITSY 2330	Intrusion Detection
ITSC 1316	Linux Installation and Configuration
ITSY 2301	Firewalls and Security

* Denotes that the course is available online.

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	24
--------------------------	-----------	--	-----------

Endorsement: STEM
Program of Study: Cybersecurity
Cluster: STEM

Program Information

Students completing this course of study will graduate from LIT with their Level 1 Cyber Defense Technology Certificate. This award can be applied to the AAS of Cyber Security Technology at LIT for those who wish to continue on this path. In most cases, ISD CTE instructors who are currently teaching these courses can be credentialed as LIT adjuncts to teach these courses. These courses will also prepare students to test for the following industry certifications: Cisco Certified Entry Networking Technician, Comp TIA Security + **NOTE:** There is a heavy equipment requirement for this program. Please contact LIT for details of equipment needs if you would like to offer this program at your site

Law and Public Service Career Cluster



The Law and Public Service career cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. This career cluster includes occupations ranging from police officer and firefighter to political scientist and lawyer.

Statewide Program of Study: Fire Science

The Fire Science program of study focuses on occupational and educational opportunities associated with fire prevention, protection, and firefighting. This program of study includes firefighter safety, building codes, and the necessary physical skills to perform rescues. Students will learn about preparedness, basic fire suppression techniques, basic arson investigation, hazardous material management, and educating the public about fire safety.



Secondary Courses for High School Credit

Level 1 • Principles of Law, Public Safety, Corrections, and Security

Level 2 • Disaster Response
• Fundamentals of Fire Protection (TBD)

Level 3 • Firefighter I
• National Security
• Emergency Medical Technician—Basic
• Crisis Care (TBD)
• Fire Prevention and Protections Systems (TBD)
• Fire Prevention Codes and Inspections (TBD)
• Anatomy and Physiology

Level 4 • Firefighter II
• Practicum in Law, Public Safety, Corrections, and Security
• Practicum in Law, Public Safety, Corrections, and Security + Extended Practicum in Law, Public Safety, Corrections, and Security
• Career Preparation for Programs of Study
• Career Preparation for Programs of Study + Extended Career Preparation
• Career and Technical Education Project-Based Capstone

Aligned Advanced Academic Courses

Dual Credit Dual credit offerings will vary by Local Education Agency

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Shadow a fire chief to learn about fire department operations and skills needed to be a firefighter
- Intern with a fire inspection company to learn about building safety, fire prevention, and fire protection

Expanded Learning Opportunities

- Tour a local fire department
- Participate in SkillsUSA

Aligned Industry-Based Certifications

- Emergency Medical Technician – Basic
- IAED Emergency Telecommunicator
- Basic Structure Fire Protection
- Emergency Medical Responder



Example Postsecondary Opportunities

Apprenticeships

- Fire Apprentice

Associate Degrees

- Emergency Medical Technology
- Fire Protection Technology

Bachelor's Degrees

- Fire Science
- Emergency Health Services

Additional Stackable IBCs/Licensures

- Hazardous Materials Awareness
- Fire Plan Examiner



Example Aligned Occupations

Emergency Medical Technicians

Median Wage: \$34,169
Annual Openings: 1,590
10-Year Growth: 19%

Firefighters

Median Wage: \$52,353
Annual Openings: 2,294
10-Year Growth: 14%

Fire Inspectors and Investigators

Median Wage: \$67,014
Annual Openings: 203
10-Year Growth: 14%

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



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

Suggested EMT Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
Principles of Law	13029200	1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Elective		0.5		
Medical Terminology	13020333	1	HITT 1305 (F)	3
			HITT 1253 (S)	2
TOTAL Credits		7		5

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
P.E. Credit		1		
Anatomy and Physiology	13020600	1	BIOL 2301/2101 (F)	4
TOTAL CREDITS		7		4

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
EMT Basic	N1303015	2	EMSP 1501 (F)	5
			EMSP 1260 (S)	2
Elective		1		
TOTAL CREDITS		7		7

LIT Course	LIT Course Name
HITT 1305*	Medical Terminology
HITT 1253*	Legal and Ethical Aspects of Health Information
BIOL 2301/2101*^	Anatomy and Physiology I
EMSP 1501	EMT Basic
EMSP 1260	Clinical EMT

* Denotes that course is offered online

^ Denotes that course is Open Source- No Textbook Cost

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	16
--------------------------	-----------	--	-----------

Endorsement: Public Service
Program of Study: Emergency Services
Cluster: Law and Public Service

Program Information
<p>Upon completion of this program, students will be eligible to take the national certification exam by the National Registry of EMTs and then receive certification by the TX Dept. of State Health Services. Students completing this course of study will graduate from LIT with their Emergency Medical Technician Level 1 Certificate.</p> <p>Courses taken in 10th and 11th grade can be taken online and can also be taken simultaneously in the 11th grade if your school desires to shorten the program.</p> <p>Senior year courses will need to be taken at LIT or at an approved off-site location that can accommodate EMT Clinical Equipment. Principles of Law must be taken in 9th or 10th grade to meet program of study requirements- but is not required as a Dual Credit course for this pathway.</p>

Law and Public Service Career Cluster



The Law and Public Service career cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. This career cluster includes occupations ranging from police officer and firefighter to political scientist and lawyer.

Statewide Program of Study: Law Enforcement

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



Secondary Courses for High School Credit

- Level 1**
 - Principles of Law, Public Safety, Corrections, and Security

- Level 2**
 - Law Enforcement I
 - Criminal Investigation
 - Federal Law Enforcement and Protective Services

- Level 3**
 - Law Enforcement II
 - Correctional Services
 - Forensic Psychology
 - Counseling and Mental Health
 - Crisis Care (TBD)

- Level 4**
 - Forensic Science
 - Practicum in Law, Public Safety, Corrections, and Security
 - Practicum in Law, Public Safety, Corrections, and Security + Extended Practicum in Law, Public Safety, Corrections, and Security
 - Career Preparation for Programs of Study
 - Career Preparation for Programs of Study + Extended Career Preparation

Aligned Advanced Academic Courses

Dual Credit Dual credit offerings will vary by Local Education Agency

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Shadow a detective to learn about investigations and the role of detectives in law enforcement
- Intern in dispatch at a local law enforcement agency to learn about first responder roles and processes

Expanded Learning Opportunities

- Visit a police department
- Participate in TSA or SkillsUSA

Aligned Industry-Based Certifications

- IAED Emergency Telecommunicator
- Non-Commissioned Security Officer Level II License



Example Postsecondary Opportunities

Apprenticeships

- Security Specialist

Associate Degrees

- Criminal Justice
- Law Enforcement

Bachelor's Degrees

- Forensic Science
- Criminal Justice

Master's, Doctoral, and Professional Degrees

- Criminal Justice
- Criminology and Criminal Justice

Additional Stackable IBCs/Licensures

- Jailer – Basic County Corrections
- Basic Telecommunicator



Example Aligned Occupations

Police and Sheriff's Patrol Officers

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

Detectives and Criminal Investigators

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

First-Line Supervisors of Police and Detectives

Median Wage: \$97,571
Annual Openings: 5461
0-Year Growth: 12%

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



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

Associate of Science in Criminal Justice Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Elective		0.5		
College Readiness	03270100	0.5	EDUC 1100 (S)	1
Art I	03500100	1	ARTS 1301 (F)	3
TOTAL CREDITS		7		4

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History	03340100	0.5	HIST 1301 (F)	3
		0.5	HIST 1302 (S)	3
Geometry		1		
Biology		1		
Foreign Language II		1		
Comm. Applications	03241400	0.5	SPCH 1318 (F)	3
Public Speaking	03240900	0.5	SPCH 1315 (S)	3
PE		1		
TOTAL Credits		7		12

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III	03220300	0.5	ENGL 1301 (F)	3
		0.5		
World History		1		
Algebra II	03100600	1	MATH 1314 (F)	3
Physics		1		
Prin. Of Law & PS	13029200	1	CRIJ 1301 (F)	3
Law Enforcement I	13029300	1	CRIJ 1310 (F)	3
			CRIJ 2323 (S)	3
Elective		1		
TOTAL CREDITS		7		15

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV	03220400	0.5	ENGL 2321 (F)	3
		0.5		
Economics	03310300	0.5	ECON 2301	3
US Government	03330100	0.5	GOVT 2305 (F)	3
Pre-Cal/ 4th Math		1		
Anatomy & Physiology	13020600	1	BIOL 2301/2101 (F)	4
			BIOL 2302/2102 (S)	4
Spec. Top. in SS 1	03380002	0.5	GOVT 2306 (S)	3
Crim. Investigation	13029550	1	CRIJ 2314 (F)	3
Law Enforcement 2	13029400	1	CRIJ 2313(F)	3
			CRIJ 2328 (S)	3
Elective		0.5		
TOTAL CREDITS		7		29

LIT Core Courses	LIT Core Course Names
EDUC 1100 *^	Learning Framework
ARTS 1301 *^	Art Appreciation
HIST 1301/1302 *^	United States History I & II
SPCH 1315 *^	Public Speaking
SPCH 1318 *^	Interpersonal Communication
ENGL 1301 *^	Composition I
MATH 1314 *^	College Algebra
ENGL 2321 *^	British Literature
ECON 2301 *^	Principles of Macroeconomics
GOVT 2305 *^	Federal Government
GOVT 2306 *^	Texas Government
BIOL 2301/2101 *^	Anatomy and Physiology I
BIOL 2302/2102 *^	Anatomy and Physiology II

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	60
--------------------------	-----------	--	-----------

CJ Courses	LIT Criminal Justice Course Names
CRIJ 1301 *	Introduction to Criminal Justice
CRIJ 1310 *	Fundamentals of Criminal Law
CRIJ 2323 *	Legal Aspects of Law Enforcement
CRIJ 2314 *	Criminal Investigation
CRIJ 2313 *	Correctional Systems and Practices
CRIJ 2328 *	Police Systems and Practices

* Denotes that the course is offered online.

^ Denotes that course is Open Source- No Textbook Cost

Students completing this course of study will graduate from Lamar Institute of Technology with an Associate of Arts in Criminal Justice, which is designed for students who wish to take courses for academic transfer in criminal justice. This degree provides Core Curriculum that will transfer to four year institutions and coincides with the first two years of most baccalaureate criminal justice degree plans. **This entire degree is offered online.**

Endorsement: Public Service
Program of Study: Law Enforcement, Security and Corrections
Cluster: Law and Public Service

Program Information
The courses in this crosswalk can also be applied to either an AAS in Security Threat Groups or an AAS in Crime Scene Technician at Lamar Institute of Technology.

Suggested Crime Scene Technician Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
P.E. Credit		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Elective		0.5		
Law Enforcement I	13029300	1	CJSA 1322 (F)	3
			CJLE 1327 (S)	3
TOTAL Credits		7		6

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
Elective		1		
Criminal investigation	13029550	1	CJSA 1342 (F)	3
Law Enforcement II	13029400	1	CJLE 2345 (F)	3
			CJSA 1313 (S)	3
TOTAL CREDITS		7		9

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
Practicum in Law	13030100	2	CJSA 1308 (F)	3
			CJSA 2323 (F)	3
			CJSA 2332 (S)	3
TOTAL CREDITS		7		9

LIT Course	LIT Course Name
CJSA 1322	Introduction to Criminal Justice
CJLE 1327	Interview and Report Writing
CJSA 1342	Criminal Investigation
CJLE 2345	Vice and Narcotics Investigation
CJSA 1313	Court Systems and Practices
CJSA 1308	Criminalistics I
CJSA 2323	Criminalistics II
CJSA 2332	Criminalistics III

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	24
--------------------------	-----------	--	-----------

Endorsement: Public Service
Program of Study: Law Enforcement, Security and Corrections
Cluster: Law and Public Service

Program Information

A student who takes all of the courses in this crosswalk will graduate from Lamar Institute of Technology with a Level 1 Certificate in Crime Scene Technician. The courses in this crosswalk are all WECM courses. In most cases, ISD Criminal Justice instructors can be credentialed and mentored to teach these courses. This Level 1 Certificate is stackable and can be applied to the Crime Scene Technician certificate and can be applied to the Associate of Applied Science in Crime Scene Technician. LIT also has a 2X2 Articulation with SFA by which students can transfer their AAS in Crime Scene tech to a BAAS in Public Administration.

Suggested Crime Scene Tech/Security Threat Groups Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
P.E. Credit		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Elective		0.5		
Principles of Law	13029200	1	CJSA 1322 (F)	3
TOTAL Credits		7		3

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
Elective		1		
Elective		1		
Law Enforcement I	13029200	1	CJSA 1327 (F)	3
			CJSA 2300 (S)	3
TOTAL CREDITS		7		6

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
Law Enforcement I	13029200	1	CJSA 1359 (F)	3
			CJSA 1342 (S)	3
Correctional Services	13029700	1	CJCR 1307 (F)	3
Elective		1		
TOTAL CREDITS		7		9

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	18
--------------------------	-----------	--	-----------

LIT Course	LIT Course Name
CJSA 1322	Introduction to Criminal Justice
CJLE 1327	Interview and Report Writing
CJCR 1307	Correctional Systems and Practices
CJSA 1359	Police Systems and Practices
CJSA 1342	Criminal Investigation
CJSA 2300	Legal Aspects of Law Enforcement

Endorsement: Public Service
Program of Study: Law Enforcement, Security and Corrections
Cluster: Law and Public Service

Program Information

The courses in this crosswalk can all be applied to either an AAS in Security Threat Groups or an AAS in Crime Scene Technician. The courses in this crosswalk are all WECM courses. In most cases, ISD Criminal Justice instructors can be credentialed and mentored to teach these courses. These courses are not transferrable to 4 year universities, but are applied to the two AAS degrees listed above. LIT also has a 2X2 Articulation with SFA by which students can transfer their AAS in Crime Scene tech to a BAAS in Public Administration.

Criminal Justice WECM to ACGM Crosswalk		
ACGM Course		WECM Course
CRIJ 1301	Intro. to Criminal Justice	CJSA 1322
CRIJ 1306	Court Systems & Practices	CJSA 1313
CRIJ 1310	Fund. Of Criminal Law	CJSA 1327
CRIJ 2313	Correctional Systems & Practices	CJRE 1307
CRIJ 2314	Criminal Investigations	CJSA 1342
CRIJ 2323	Legal Aspects of Law Enforcement	CJSA 2300
CRIJ 2328	Police Systems and Practices	CJSA 1359
SOCI 2336	Criminology	CJSA 1325

Manufacturing Career Cluster

The Manufacturing career cluster focuses on planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and process engineering. This career cluster includes occupations ranging from Welder and Machinist to Industrial Engineering Technician, and Semi-Conductor Processing Technician.

Statewide Program of Study: Welding

The Welding program of study focuses on occupational and educational opportunities associated with the development and use of automatic and computer-controlled machines, tools, and robots that perform work on metal or plastic. This program of study addresses how to modify parts to make or repair machine tools or maintain individual machines, and how to use hand-welding or flame-cutting equipment.



Secondary Courses for High School Credit

- | | |
|----------------|---|
| Level 1 | <ul style="list-style-type: none"> • Introduction to Welding • Principles of Manufacturing |
| Level 2 | <ul style="list-style-type: none"> • Occupational Safety and Environmental Technology I • Introduction to Film Interpretation of Weldments • Welding I • Entrepreneurship I |
| Level 3 | <ul style="list-style-type: none"> • Welding II • Welding II + Welding II Lab |
| Level 4 | <ul style="list-style-type: none"> • Practicum in Entrepreneurship • Practicum in Manufacturing • Practicum in Manufacturing + Extended Practicum in Manufacturing • Career Preparation for Programs of Study • Career Preparation for Programs of Study + Extended Career Preparation |

Aligned Advanced Academic Courses

Dual Credit

Dual credit offerings will vary by Local Education Agency.

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count toward Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Job shadow a welder
- Intern for a local welding company

Expanded Learning Opportunities

- Tour a welding shop
- Participate in SkillsUSA
- Participate in a welding project that benefits the community

Industry-Based Certifications

- API 1104 Welding Pipelines and Related Facilities
- AWS Certified Welder
- AWS D1.1 Structural Steel
- AWS D9.1 Sheet Metal Welding
- AWS SENSE Level I: Entry Welder
- Industrial Technology Maintenance (ITM)
- Maintenance Welding
- NCCER Construction Technology Certification Level I
- NCCER Core
- NCCER Welding Level I
- Welding - Job Ready



Postsecondary Opportunities

Apprenticeships

- Welding

Associate Degrees

- Welding Technology
- Building/Construction Site Management
- Operations Management and Supervision

Bachelor's Degrees

- Welding Technology
- Construction Management
- Project Management
- Building/Construction Site Management

Master's, Doctoral, and Professional Degrees

- Engineering
- Engineering/Industrial Management
- Manufacturing Engineering
- Construction Engineering



Example Aligned Occupations

Welders, Cutters, Solderers, and Brazers

Median Wage: \$48,177
Annual Openings: 6,792
10-Year Growth: 23%

First-Line Supervisors of Production and Operating Workers

Median Wage: \$62,584
Annual Openings: 5,926
10-Year Growth: 17%

Industrial Production Managers

Median Wage: \$119,691
Annual Openings: 1,296
10-Year Growth: 19%

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



For more information visit:

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

Suggested Welding Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
P.E. Credit		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Elective		0.5		
Introduction to Welding	13032250	1	WLDG 1323 (F)	3
			WLDG 1327 (S)	3
TOTAL Credits		7		6

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
Elective		1		
Welding I	13032300	2	WLDG 1428 (F)	4
			WLDG 1407 (S)	4
TOTAL CREDITS		7		8

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
Welding II	13032400	2	WLDG 1457 (F)	4
Elective		1		
TOTAL CREDITS		7		4

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	18
--------------------------	-----------	--	-----------

LIT Course	LIT Course Name
WLDG 1323 *	Welding Safety, Tools & Equipment
WLDG 1327 *	Welding Codes
WLDG 1428	Intro to SMAW
WLDG 1407	Intro to Welding- Multi Processes
WLDG 1457	Intermediate SMAW

*Denotes that the course is offered online.

Endorsement: Business and Industry
Program of Study: Welding
Cluster: Manufacturing

Program Information

Students completing this course of study will complete their Level 1 Certification in Welding Technology and walk in LIT's graduation if they choose. This award can be applied to the Welding Level II Certificate and the AAS of Welding Technology for students wishing to continue their education . All lab courses are taught in person. In most cases, ISD welding teachers can be credentialed as LIT adjuncts to teach these courses. However, the WLDG 1323 and WLDG 1327 lecture courses are also taught online and ISDs can utilize LIT instructors to teach these courses and leave their own ISD instructor free to teach the lab courses. All of these courses will also prepare students to test for the following industry certifications: AWS Certified Welder, D1.1, D9.1

Transportation, Distribution, and Logistics Career Cluster



The Transportation, Distribution, and Logistics career cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water. It also includes transportation infrastructure planning and management, logistics services, and mobile equipment and facility maintenance. This career cluster includes occupations ranging from automotive mechanic, avionics technician, and an automotive entrepreneur to pilots and logistics planning professionals.

Statewide Program of Study: Automotive and Collision Repair

The Automotive and Collision Repair program of study focuses on the occupational and educational opportunities associated with servicing, repairing, and refinishing various types of vehicles. This program of study includes diagnosing and servicing vehicles and learning about processes, technologies, and materials used in reconstructing vehicles.



Secondary Courses for High School Credit

Level 1	<ul style="list-style-type: none"> Principles of Transportation Systems Basic Collision Repair and Refinishing
Level 2	<ul style="list-style-type: none"> Introduction to Transportation Technology Occupational Safety and Environmental Technology I Small Engine Technology I Automotive Basics Collision Repair Collision Repair + Advanced Transportation Systems Laboratory Entrepreneurship I
Level 3	<ul style="list-style-type: none"> Energy and Power of Transportation Systems Automotive Technology I: Maintenance and Light Repair Paint and Refinishing Paint and Refinishing + Advanced Transportation Systems Laboratory Small Engine Technology II
Level 4	<ul style="list-style-type: none"> Customer Service Representative (TBD) Automotive Technology II: Automotive Service Automotive Technology II: Automotive Service + Advanced Transportation Systems Laboratory Practicum in Transportation Systems Practicum in Transportation Systems + Extended Practicum in Transportation Systems Practicum in Entrepreneurship Career Preparation for Programs of Study Career Preparation for Programs of Study + Extended Career Preparation

Aligned Advanced Academic Courses

Dual Credit Dual credit offerings will vary by Local Education Agency.

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Shadow an automotive technician at a car dealership
- Intern at a rental car company and assist technicians with vehicle maintenance
- Work at a local automotive repair shop and hold both customer service duties and a automatic repair duties

Expanded Learning Opportunities

- Join a related automotive association and attend events
- Participate in SkillsUSA

Aligned Industry-Based Certifications

- ASE Entry-Level Automobile Maintenance and Light Repair (MR)
- ASE Entry-Level Automobile Automatic Transmission/Transaxle (AT)
- ASE Entry-Level Automobile Brakes (BR)
- ASE Entry-Level Automobile Electronic/Electrical Systems (EE)
- ASE Entry-Level Automobile Engine Performance (EP)
- ASE Entry-Level Automobile Engine Repair (ER)
- ASE Entry-Level Automobile Heating and Air Conditioning (AC)
- ASE Entry-Level Automobile Manual Drive Train and Axles (MD)
- ASE Entry-Level Automobile Service Technology
- ASE Entry-Level Automobile Suspension and Steering (SS)
- ASE Entry-Level Collision Mechanical and Electrical Components (ME)
- ASE Entry-Level Collision Non-Structural Analysis and Damage Repair (MS)
- ASE Entry-Level Collision Painting and Refinishing (PR)
- ASE Entry-Level Collision Structural Analysis and Damage Repair
- ASE Refrigerant Recovery and Recycling
- Principles of Small Engine Technology Certification
- Small Engine Technology
- Industrial Technology Maintenance (ITM) - Basic Mechanical Systems
- Industrial Technology Maintenance (ITM) - Maintenance Operations
- Industrial Technology Maintenance (ITM) - Electrical Systems
- Industrial Technology Maintenance (ITM) - Maintenance Welding
- Industrial Technology Maintenance (ITM) - Basic Pneumatic Systems



Example Postsecondary Opportunities

Apprenticeships

- Automotive Technician Apprenticeship



Associate Degrees

- Automobile/Automotive Mechanics Technology
- Autobody/Collision and Repair Technology

Bachelor's Degrees

- Autobody/Collision and Repair Technology
- Heavy Equipment Maintenance Technology

Additional Stackable IBCs/Licensures

- Automobile and Light Truck Certification (A1–A9)



Example Aligned Occupations

Automotive Service

Technicians and Mechanics

Median Wage: \$44,809
Annual Openings: 6,285
10-Year Growth: 10%

Bus and Truck Mechanics and Diesel Engine Specialists

Median Wage: \$50,967
Annual Openings: 3,096
10-Year Growth: 19%

First-Line Supervisors of Mechanics, Installers, and Repairers

Median Wage: \$66,535
Annual Openings: 5,019
10-Year Growth: 19%

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



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

Suggested Automotive Technology Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
PE Credit		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Elective		0.5		
Auto Basics	13039550	1	AUTM 2305 (F)	3
TOTAL Credits		7		3

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
Elective		1		
Auto Technology I	13039600	2	DEMR 1401 (F)	4
			DEMR 1306 (S)	3
TOTAL CREDITS		7		7

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
Auto Technology II	13039700	2	DEMR 1329 (F)	3
			DEMR 1313 (S)	3
Elective		1		
TOTAL CREDITS		7		6

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	16
--------------------------	-----------	--	-----------

LIT Course	LIT Course Name
AUTM 2305	Automotive Engine Theory
DEMR 1401	Shop Safety and Procedures
DEMR 1313	Fuel Systems
DEMR 1306	Diesel Engines I
DEMR 1329	Preventative Maintenance

Endorsement: Business and Industry
Program of Study: Automotive
Cluster: Transportation, Distribution, and Logistics

Program Information

All courses are taught in person. Students completing this course of study will graduate from LIT with their Automotive Technology Level 1 Certificate, which can be applied to an AAS in Advanced Engine Technology. All courses are taught in person. In some cases, ISD CTE instructors that are currently teaching these courses can be credentialed as LIT adjuncts to teach these courses. These courses will also prepare students to test for several ASE industry certifications. NOTE: There is a heavy equipment requirement for this program. Please contact LIT for details of equipment needs if you would like to offer this program at your site.

Suggested Automotive Collision Level 1 Certificate Crosswalk

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Fine Arts Credit		1		
PE Credit		1		
TOTAL CREDITS		7		0

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History		1		
Geometry		1		
Biology		1		
Foreign Language II		1		
Speech		0.5		
Electives		1.5		
TOTAL Credits		7		0

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III		1		
World History		1		
Algebra II		1		
Physics		1		
Elective		1		
Collision Repair	13039800	2	ABDR 1455 (F)	4
			ABDR 1431 (S)	4
TOTAL CREDITS		7		8

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV		1		
Economics		0.5		
US Government		0.5		
Pre-Cal/ 4th Math		1		
4th Science		1		
Paint/Refinishing Lab	13039900	2	ABDR 2449 (F)	4
			ABDR 1349 (S)	4
Elective		1		
TOTAL CREDITS		7		8

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	16
--------------------------	-----------	--	-----------

LIT Course	LIT Course Name
ABDR 1455	Non-Structural Metal Repair
ABDR 1431	Basic Refinishing
ABDR 2449	Advanced Refinishing I
ABDR 1349	Auto Plastic & Sheet Molded Comp. Repair

Endorsement: Business and Industry
Program of Study: Automotive
Cluster: Transportation, Distribution, and Logistics

Program Information

All courses are taught in person. Students completing this course of study will graduate from LIT with their Automotive Collision Level 1 Certificate. All courses are taught in person. In some cases, ISD CTE instructors that are currently teaching these courses can be credentialed as LIT adjuncts to teach these courses. These courses will also prepare students to test for several ASE industry certifications. NOTE: There is a heavy equipment requirement for this program. Please contact LIT for details of equipment needs if you would like to offer this program at your site.

The following courses are listed in the Technical Program crosswalks but are fully transferrable to 4-year Universities.

ACGM - Transferrable Technical Course Listing		
Course	Course Name	SCH
ACCT 2301	Principles of Financial Accounting	3
ACCT 2302	Principles of Managerial Accounting	3
BCIS 1301	Business Principles	3
BIOL 2301	Anatomy & Physiology Lecture	3
BIOL 2101	Anatomy & Physiology Lab	1
BUSI 1301	Business Principles	3
BUSI 2301	Business Law	3
CRIJ 1301	Introduction to Criminal Justice	3
CRIJ 1310	Fundamentals of Criminal Law	3
CRIJ 2313	Correctional Systems and Practices	3
CRIJ 2314	Criminal Investigation	3
CRIJ 2328	Police Systems and Practices	3
CRIJ 2323	Legal Aspects of Law Enforcement	3
ECON 2301	Principles of Macroeconomics	3
ECON 2302	Principles of Microeconomics	3
EDUC 1301	Introduction to Teaching	3
EDUC 2301	Special Populations	3
EDUC 1100	Learning Frameworks	1
PSYC 2301	General Psychology	3

Suggested Core Complete Crosswalk (7 Period Day)

9th Grade				
ISD	Service ID	CR	LIT	SCH
English I		1		
W. Geography		1		
Algebra I		1		
IPC		1		
Foreign Language I		1		
Elective		0.5		
College Readiness	03270100	0.5	EDUC 1100 (S)	1
Art I	03500100	1	ARTS 1301 (F)	3
TOTAL CREDITS		7		4

10th Grade				
ISD	Service ID	CR	LIT	SCH
English II		1		
US History	3340100	0.5	HIST 1301 (F)	3
		0.5	HIST 1302 (S)	3
Geometry		1		
Biology		1		
Foreign Language II		1		
Comm. Applications	03241400	0.5	SPCH 1318 (F)	3
Public Speaking	03240900	0.5	SPCH 1315 (S)	3
Elective		1		
TOTAL Credits		7		12

11th Grade				
ISD	Service ID	CR	LIT	SCH
English III	3220300	1	ENGL 1301 (F)	3
World History		1		
Algebra 2	03100600	1	MATH 1314 (F)	3
Physics		1		
Elective		1		
Elective		0.5		
Elective		0.5		
PE		1		
TOTAL CREDITS		7		6

12th Grade				
ISD	Service ID	CR	LIT	SCH
English IV	3220400	1	ENGL 2321 (F)	3
Macroeconomics	3310300	0.5	ECON 2301	3
US Government	3330100	0.5	GOVT 2305 (F)	3
Pre-Cal/ 4th Math		1		
Anatomy & Physiology	13020600	1	BIOL 2301/2101 (F)	4
			BIOL 2302/2102 (S)	4
Elective		1		
Social Stu. Adv. Stu.	03380001	0.5	GOVT 2306 (S)	3
Elective		0.5		
Elective		1		
TOTAL CREDITS		7		20

ISD Total Credits	28	LIT TOTAL Semester Credit Hours	42
--------------------------	-----------	--	-----------

The courses suggested in this crosswalk will satisfy the requirements for a student to graduate "Core Complete" from high school and also graduate from LIT with a Core Complete Institutional Award. It is state law that students who complete the Core Curriculum with at least a 2.0 GPA are guaranteed that their courses will transfer as a block of credit to any Texas public college or university. Other courses may be substituted for Core Curriculum. ALL courses in this crosswalk can be taken online and all courses listed in this crosswalk have an open source text- NO COST for Textbook. In some cases, the ISD teacher of record may be credentialed to teach these courses.

Teacher Credentialing Requirements for Dual Credit

Technical Courses:

Faculty teaching technical courses at the undergraduate level must have a degree, industry certifications, or work experience that is relevant to their subject matter. Typically, the requirements for teaching in secondary CTE programs are similar to the post-secondary technical course requirements.

General Education Courses:

Faculty teaching academic courses at the undergraduate level must have a master's degree in the teaching discipline or a master's degree with a concentration in the teaching discipline (a minimum of 18 graduate semester hours in the teaching discipline).

(Excerpt of Policy 4.13, Section 1.1 in the LIT Policy & Procedure Handbook). This is in compliance with SACS requirements.

ARTS	Art, Art History
EDUC	Any Master's Degree
ENGL	English, Reading, Writing
GOVT	Government, Public Administration, Political Science
HIST	History
HUMA	English, Theater, Drama, Speech, Art, Music, Dance, Philosophy
MATH	Mathematics*
PHIL	Philosophy, Biblical Studies
PSYC	Psychology
SOCI	Sociology
SPCH	Speech, Communication
ECON	Economics
BIOL	Biology

Programs that wish to credential ISD teachers for the purposes of offering face-to-face courses for either technical or general education courses must have their instructors apply here:

<https://jobs.lit.edu/postings/530>

Once the application is submitted, please send an email notification to dualcredit@lit.edu stating your name, ISD and school, and the subject that you are teaching. If the applicant is credentialed, we will inform them of the next steps that will ensue. These next steps may require additional paperwork, including the submission of an official transcript from every college attended.

Benefits Include:

- A \$250 stipend per course section
- TRS-eligible
- Potential opportunities to teach adult sections
- Teach from your home campus

TSI Admission Standards

TSI requirements for dual credit do not differ from traditional students in that they must meet the standards that any core course requires. Included is a list of courses with their required TSI scores.

TSI Exemptions

There are various exemptions for the TSI, including SAT, ACT, as well as STAAR EOC score exemptions. Below are the SAT, ACT, and STAAR exemptions. Students may use an individual verbal or math score from any test. A student can use ACT English in combination with SAT Math to be TSI ready. *The updated TSI exemption guidelines below will go into effect January 2025.

Required TSIA2 Scores

ELAR

CRC score of 945-990 with an Essay of 5-8 or,
CRC of a 910-944 with a Diagnostic Level of 5-6 and an Essay of 5-8

MATH

CRC score of 950-990 or,
CRC score of 910-949 with a Diagnostic Level of 6

Required SAT Scores:

Verbal	480
Math	530 exempts Math

Required ACT Scores:

English & Reading	40
Math	22

STAAR/EOC Scores:

English III EOC Minimum score	4000
Algebra II EOC Minimum score	4000

*STAAR score exemptions only apply to dual credit students. Once a student graduates, the other exemptions may apply, but they may not use the STAAR EOC exemption. If a student successfully completes a course that requires TSI readiness as a dual credit student, then they become TSI exempt in that subject. For example, completion of ENGL 1301 with a "C" or better as a dual credit student will exempt the student once they graduate.

GEDS Course Inventory with Prerequisites

Course	None	TSIA 2			Prerequisites with "C" or better in:
		ELAR	Essay	Math	
ARTS 1301					
BIOL 2301		945			
BIOL 2302		945			
ECON 2301		945	5		
ECON 2301		945	5		
EDUC 1100					
ENGL 1301		945	5		
ENGL 1302		945	5		ENGL 1301
ENGL 2321		945	5		ENGL 1301
ENGL 2326		945	5		ENGL 1301
GOVT 2305		945			
GOVT 2306		945			
HIST 1301		945			
HIST 1302		945			
HUMA 1315					
MATH 1314				950	
MATH 1325				950	MATH 1314
MATH 1332				950	
MATH 1342				950	
MATH 2312				950	MATH 1314
PHIL 1301		945			
PSYC 2301		945			
PSYC 2314		945			
SOCI 1301					
SPCH 1315					
SPCH 1318					

Alternate passing scores utilizing diagnostic scores

ELAR		910-944	5	Diagnostic score of 5-6
Math		910-944	5	Diagnostic score of 5-6

Open Educational Resource Listing – No Cost Textbooks

In an effort to reduce textbook costs for students and district partners, LIT has adopted open resource content for many courses. The courses listed below do NOT require the student or district to purchase a textbook. There are a few noted exceptions that require low-cost novels.

Course	Full Course Name
ARTS 1301	Art Appreciation
BIOL 2301/2101	Anatomy and Physiology I & Lab
BIOL 2302/2102	Anatomy and Physiology II & Lab
ECON 2301	Principals of Macroeconomics
ECON 2302	Principals of Microeconomics
EDUC 1100	Learning Framework
EDUC 1301	Introduction to Education
EDUC 2301	Special Populations in Education
ENGL 1301	Composition I
ENGL 1302	Composition II
ENGL 2307	Creative Writing
ENGL 2311	Technical and Business Writing
ENGL 2321	British Literature
ENGL 2326	American Literature
GOVT 2305	Federal Government
GOVT 2306	Texas Government
HIST 1301 *	United States History I
HIST 1302*	United States History II
HUMA 1315	Fine Arts Appreciation
PHIL 1301	Introduction to Philosophy
PSYC 2301	General Psychology
PSYC 2314	Lifespan Growth & Development
SOCI 1301	Introduction to Sociology
SPCH 1315	Public Speaking
SPCH 1318	Interpersonal Communications

* This course uses OER for the main text but requires two novels. Total expense is under \$20.

