

# Royal High School



*2024-2025 School Years*

*...with Royal STEM Academy;  
Early College High School &  
Junior High CTE Options*

**Course Guide**

# John H. England CTE Center



## Royal Independent School District Board of Trustees

Scott Hartman, President	Perla Aguilar	Melissa Woods
Rose Jones, Vice-President	Elton R. R. Foster	
Cori Vahalik, Secretary	Jimmy Meader	

## District Administration & Campus Support Staff

Rick Kershner ..... Royal ISD Superintendent of Schools

Duana Brashear ..... Royal ISD Assistant Superintendent of Leadership & Learning

Phylicia Glover ..... Royal ISD Director of Teaching & Learning

Tonya Gage-Woods ..... Royal ISD Special Services Director

Shalonda Dumas ..... Royal High School Principal

Natalie Alexandre ..... Royal High School Associate Principal & Royal ECHS Principal

Shannon Wesley ..... Royal High School Assistant Principal

Christopher Nguyen..... Royal High School Assistant Principal

Tisheka Brown..... Royal High School Lead Counselor & ECHS Counselor

Jacqueline Lewis..... Royal High School Counselor

Charvela Fearon ..... Royal High School Counselor

Marcus Mclemore ..... Royal Jr. High School Principal

Carrie Campbell-Bishop..... Royal Jr. High School Assistant Principal

Chandell Murphy..... Royal Jr. High School Counselor

Katelyn Miksch..... Royal STEM Academy Principal

Christi Ginn ..... Royal ISD Communications & Marketing Director

Melissa Baker ..... Royal ISD Director of Advanced Academics

Nick Gonzales..... Royal ISD Career and Technical Education Director

## Royal ISD Career & Technical Instructional Leaders

Kenna Harwell.....	Royal Jr. High Agri-Science & FFA Advisor
Brandon Hein .....	Royal Jr. High Agri-Science & FFA Advisor
Jennifer Ibarra-León.....	Royal Jr. High Technical Applications Instructor
Jason Guidry .....	Royal STEM Academy Instructor & FFA Advisor
Jared Harbes.....	Royal Jr. High Trades & Industrial Instructor
Skyler Webb .....	Royal STEM Academy Engineering Instructor & PLTW Sponsor
Matthias Kent.....	Royal High School STEM Instructor & PLTW Sponsor
Kevin Wood .....	Royal High School Professional Communications Instructor
Robert Jones .....	Royal High School Business Education & FBLA Advisor
Roldan Salais.....	Royal High School Welding/Manufacturing & SkillsUSA Advisor
Chase Jacob .....	Royal High School Arts, Audio/Video Technology & SkillsUSA Advisor
Eureka Jackson .....	Royal High School Cosmetology Instructor & SkillsUSA Advisor
Christy Jacob.....	Royal High School Agri-Science & FFA Advisor
Frank Cobio.....	Royal High School Machining/Manufacturing & SkillsUSA Advisor
Cesar Gonzalez.....	Royal High School Automotive/Transportation & SkillsUSA Advisor
Jillian Pike .....	Royal High School Nursing & Health Occupations & Skills USA Advisor
Jason Woods .....	Royal High School Agri-Science & FFA Advisor
Lynette Beyer .....	Royal High School Teaching & Training Instructor & TAFE Advisor
Demonica Jones .....	Royal High School Cosmetology Instructor & Skills USA Advisor
Selena Castillo.....	Royal High School Welding & Skills USA Advisor

## Royal ISD Career & Technical Education mission statement:

*Career and technical programs are dedicated to preparing young people to manage the dual roles of family members and wage earners. Career and technical programs enable students to gain entry-level employment in a high-skill, high-wage job and/or to continue their education.*

*We accomplish the aims and purposes of our mission through tangible, visceral, and meaningful learning experiences offered in (10) unique CTE Programs of Study at Royal ISD.*

## More changes .....More choices for 2024-2025

The following pages address each of Royal ISD's CTE (Career and Technical Education) program course options and the state-mandated sequence of class and lab work leading to industry licenses and certifications. We sincerely hope you take the time to review each CTE program area and carefully prioritize and plan your junior high and high school experience. Please consult with your, CTE teaching staff and/or CTE campus administrators should you have questions regarding Career and Technical Education at Royal High School, Royal Jr. High School, and the STEM Academy. These individuals are your best sources of information regarding understanding, planning, and assisting you with "required" foundation classes and worthwhile elective options. Please note the addition of our new *Education & Training & Information Technology pathways*. We are excited about these programs and all the benefits associated with these opportunities at Royal High School. The student leadership organization associated with the *Educator Preparation* pathway is "Texas Association of Future Educators" and "Skills USA" for the *Information Technology Program of Study*.

The State Board of Education recently revised our requirements for graduation through the passage of House Bill 3. These revisions allow students more flexibility in completing the state's "4 x 4" graduation requirements (four years of High School Math, Science, English, and Social Studies) without sacrificing career-preparatory electives. These revisions went into effect for the school year 2020-2021 and will profoundly impact the students and their scheduling choices in the coming years.

The passage of House Bill 3 also allows for a CTE-weighted funding initiative for certain 7<sup>th</sup> and 8<sup>th</sup>-grade courses. This legislation provides financial resources for our Junior High and STEM Academy staff and students.

Please do not overlook or discount the endless opportunities available by participating in one of our CTE-SLOs (Student Leadership Organizations - see page 22 for details). Royal ISD students who join Skills USA; FFA; TAFE; PLTW, and FBLA are likelier to excel in the three A's of education: Academics; Attendance; and Attitude! Greater rewards await those who become active members and participate in CTE-SLOs.

Best of luck in your endeavors at Royal Jr High School, Royal STEM Academy, and Royal High School. Our sincere hope is that you engage in the challenges and experiences associated with what our programs have to offer! Looking forward to great things from you this school year.....

Sincerely,

Nick Gonzales  
Royal ISD Career & Technical Education Director

# Table of Contents & CTE Course Sequences



## AGRICULTURE, FOOD & NATURAL RESOURCES ..... 9 (Horticulture Option)

Principles of Agriculture, Food, and Natural Resources (Year 1)  
Floral Design (Year 2)  
Dual Credit Floral Design (Blinn College)  
Horticulture Science (Year 3)  
Advanced Plant and Soil Science (Year 4)  
Advanced Floral Design (Year 4)  
CERTIFICATION/LICENSE PROGRAM: Texas High School Florist

## AGRICULTURE, FOOD & NATURAL RESOURCES ..... 10 (Animal Science Option)

Principles of Agriculture, Food, and Natural Resources (Year 1)  
Livestock Production (Year 2)  
Veterinary Medical Applications (Year 3)  
Advanced Animal Science (Year 4)  
Mathematical Apps in Ag (Year 4)  
Wildlife, Fisheries & Ecology Management (Grades 9-12) (½ credit)  
Food Science & Technology (Grades 9-12) (½ credit)  
CERTIFICATION PROGRAM: Certified Vet Assistant; Feedyard Technician.



## ARTS, A/V TECHNOLOGY & COMMUNICATIONS ..... 11 (Graphics and Animation Option)

Principles of Arts, Audio/Video Technology and Communications (Year 1)  
Graphic Design and Illustration (Year 2)  
Animation I (Year 3)  
Advanced Animation II (Year 4)  
Practicum in Graphic Design & Illustration/Yearbook (Grades 11-12)  
Professional Communications (Grade 9-12)  
CERTIFICATION PROGRAM(S): Apple Final Cut Pro X & Adobe (various levels).

# Table of Contents & CTE Course Sequences

## INFORMATION TECHNOLOGY ..... 12

- Principles of Information Technology (Year 1)
- Computer Maintenance (Year 2)
- Computer Technician Practicum (Year 3)
- Information Technology Practicum (Year 4, 12th grade only)
- CERTIFICATION PROGRAM(S): Google Professional (various levels)



## BUSINESS MANAGEMENT & ADMINISTRATION.....13

- Principles of Business, Marketing, and Finance (Year 1)
- Business Information Management I (Year 2)
- Business Information Management II (Year 3)
- Business Management (Year 4)
- Career Prep I (Year 4)
- Business English (Year 4)
- CERTIFICATION PROGRAM(S): All Microsoft Office applications (various levels).



## COSMETOLOGY & HUMAN SERVICES ..... 14

- Principles of Cosmetology Design & Color Theory (Year 1)
- Introduction to Cosmetology (Year 2)
- Cosmetology I (Year 3)
- Cosmetology II (Year 4)
- CERTIFICATION PROGRAM: Cosmetology Operators License through TDLR.

# Table of Contents & CTE Course Sequences



## HEALTH SCIENCE & TECHNOLOGY ..... 15

Principles of Health Science (Year 1)  
Medical Terminology (Year 2)  
Anatomy and Physiology (Year 3)  
Practicum in Health Science (Year 4)/Clinical Rotation  
CERTIFICATION PROGRAM: Registered Pharmacy Technician.



## MANUFACTURING/INDUSTRIAL WELDING .....16

Introduction to Welding (Year 1)  
Welding I (Year 2)  
Welding II (Year 3)  
Practicum in Manufacturing (Year 4)  
CERTIFICATION PROGRAM: American Welding Society- Multi-Process  
Certifications & OSHA 30.



## MANUFACTURING TECHNOLOGY /MACHINING.....17

Principles of Manufacturing (Year 1)  
Metal Fab & Machining I (Year 2)  
Precision Metal Manufacturing (Year 3)  
Practicum in Manufacturing (Year 4)  
CERTIFICATION PROGRAM: National Institute of Metalworking Skills Certification (NIMS).

# Table of Contents & CTE Course Sequences



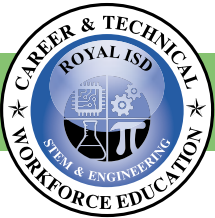
## TRANSPORTATION & LOGISTICS .....18

- Principles of Transportation systems (Year 1)
- Automotive Basics (Year 2)
- Automotive Technology I (Year 3)
- Automotive Technology II (Year 4)
- CERTIFICATION PROGRAM: A.S.E. Various (AUTOMOTIVE SERVICE EXCELLENCE).



## EDUCATION & TRAINING.....19

- Principles of Education & Training (Year 1)
- Human Growth & Development (Year 2)
- Instructional Practices (Year 3)
- Practicum in Education & Training/Clinicals (Year 4)
- CERTIFICATION PROGRAM: Educational Aide in Texas Public Schools.



## STEM – SCIENCE, TECHNOLOGY, ENGINEERING & MATH.....20

- Engineering Essentials (Year 1)
- Introduction to Engineering Design (Year 2)
- Aerospace Engineering (Year 3)
- Engineering Design and Development (Year 4)
- CERTIFICATION PROGRAM: AutoDesk Certified User Inventor & Fusion 360.

Royal Junior High & STEM Academy CTE courses ..... page 21

Career and Technical Student Leadership ..... page 22

# AGRICULTURE, FOOD & NATURAL RESOURCES

The Agriculture, Food, and Natural Resources program focuses on life's essential elements—food, water, land, and air. This career pathway includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

**Targeted Industry-Based certification(s) for this Program of Study:** TVMA Certified Vet-Assistant Level 1; Texas High School Florist; & TCFA Cattle Care & Handling Certification, Elanco Animal Science/ Vet Science.

## HORTICULTURE / FLORICULTURE PATHWAY SEQUENCE

### Principles of Agriculture, Food, and Natural Resources (One Credit)

PEIMS: 13000200 / Local Course Code 8601

Course 1, All Agriculture Programs or Study

Dual Credit Blinn College Cohort Option: Local Course Code 8601DC

### Floral Design (One Credit)

PEIMS: 13001800 / Local Course Code 8602

Course 2, Horticulture/Floriculture pathway

Satisfies the “Fine Arts” requirement for all high school graduation plans.

Prerequisite: Principles of Agriculture, Food, and Natural Resources

### Dual Credit Floral Design (Blinn College) (One Credit)

PEIMS: 13001800 / Local Course Code 8602DC

Course 2, Horticulture/Floriculture pathway

Satisfies the “Fine Arts” requirement for all high school graduation plans.

Prerequisite: Principles of Agriculture, Food, and Natural Resources (Dual Credit)



### Horticulture Science (One Credit)

PEIMS: 13002000 / Local Course Code 8609

Course 3, Horticulture/Floriculture pathway

Dual Credit Blinn College Cohort: Local Course Code 8609DC

Prerequisite: Floral Design (Dual Credit)



### Advanced Plant and Soil Science (One Credit)

PEIMS: 13002100 / Local Course Code 8610

Course 4, Horticulture/Floriculture pathway

\*Satisfies 4th Science w/ Highly Qualified Instructor FOR SENIORS ONLY

Prerequisites: Floral Design and Horticulture

### Advanced Floral Design (One Credit)

PEIMS: N1300270 / Local Course Code 8603

Year 4, Horticulture/Floriculture pathway

General requirements. This course is recommended for students in Grades 11-12.

Prerequisite: Floral Design.

# ANIMAL SYSTEMS-LIVESTOCK PATHWAY SEQUENCE

## Principles of Agriculture, Food, and Natural Resources (One Credit)

PEIMS: 13000200 / Local Course Code 8601

Year 1, All Agriculture Programs or Study

## Livestock Production (One Credit)

PEIMS: 13000300 / Local Course Code 8407

Course 2, Animal Science Pathway

Prerequisite: Principles of Agriculture, Food, and Natural Resources

## Veterinary Medical Applications (One Credit)

PEIMS: 13000600 / Local Course Code 8408

Course 3, Animal Science Pathway

Prerequisite: Livestock Production

## Advanced Animal Science (One Credit)

PEIMS: 13000700 / Local Course Code 8409

Course 4, Animal Science pathway

\*Satisfies 4th Science w/ Highly Qualified Instructor

Prerequisite: Veterinary Medical Applications

## Mathematical Applications in Agriculture, Food and Natural Resources (One Credit)

PEIMS 13001000 / Local Course Code 8412

This course does not follow a coherent sequence of coursework in Career/Technical Education at Royal High School.

\*Satisfies 4th Mathematics requirement for graduation.

Prerequisite: Algebra II or taken concurrently with Algebra II.

## Wildlife, Fisheries & Ecology Mgmt./ Food Science & Tech. (One-half credit & One-half credit )

PEIMS 13001500/ 13001300 / Local Course Code 8190 / Local Course Code 8191

These courses does not follow a coherent sequence of coursework in Career/Technical Education at Royal High School.

Grade(s) 9-12.



# ARTS, A/V TECHNOLOGY AND COMMUNICATIONS

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

## Targeted Industry-Based certification(s) for this Program of Study:

Final Cut Pro X; & Adobe (various levels).

## GRAPHICS & ANIMATION PATHWAY SEQUENCE

### Principles of Arts, Audio/Video Technology, and Communications (One Credit)

PEIMS: 13008200 / Local Course Code 8613

Year 1, All Arts, A/V Pathway.

### Graphic Design and Illustration I (One Credit)

PEIMS: 13008800 / Local Course Code 8614

Course 2, Arts, A/V Technology, and Communications pathway.

Prerequisite: Principles of Arts, Audio/Video Technology, and Communications.

### Animation I (One Credit)

PEIMS: 13008300 / Local Course Code 8615

Course 3, Arts, A/V Technology, and Communications pathway.

Prerequisite: Graphic Design and Illustration.

### Animation II (One Credit)

PEIMS: 13008400 / Local Course Code 8616

Course 4, Arts, A/V Technology, and Communications pathway.

Prerequisite: Animation I.



### Practicum in Graphic Design & Illustration/Yearbook (Two Credit)

PEIMS: 13009000 / Local Course Code 8607

This course does not follow a coherent sequence of Career/Technical Education coursework at Royal High School.

Grade(s) 11-12.

### Professional Communications (One-half credit)

PEIMS: 13009900 / Local Course Code 1520

This course does not follow a coherent sequence of Career/Technical Education coursework at Royal High School.

\*Satisfies "Communication Applications" requirement for graduation.



# INFORMATION TECHNOLOGY

The Information Technology Career Cluster explores the occupations and educational opportunities associated with administering, testing, and implementing computer databases and applying knowledge of database management systems. This program of study may also include analyzing user requirements and problems to automate or improve existing systems and review computer system capabilities. This program of study may also include exploration into the research, design, or testing of computer or computer-related equipment for commercial, industrial, military, or scientific use.

**Targeted Industry-Based certification(s) for this Program of Study:**

Google Professional (various levels); Computer Repair Technology - Job Ready

## PATHWAY COURSE SEQUENCE

### Principles of Information Technology (One Credit).

PEIMS: 13027200 / Local Course Code 8644

Course 1, Information Technology pathway.

Year 1, Information Technology Pathway.

### Computer Maintenance (One Credit).

PEIMS: 13027300 / Local Course Code 8645

Course 2, Information Technology pathway.

Prerequisite: Principles of Information Technology

### Computer Technician Practicum (Two Credits).

PEIMS: 13027500 / Local Course Code 8646

Course 3, Information Technology pathway.

Prerequisite: Computer Maintenance

### Information Technology Practicum (Two Credits).

PEIMS: 13028000 / Local Course Code 8647

Course 4, Information Technology pathway.

Prerequisite: Approved by Instructor (12th grade only).



# BUSINESS MANAGEMENT AND ADMINISTRATION

The Business Management program of study teaches CTE learners how to plan, direct, and coordinate an organization's administrative services and operations. Through this program of study, students will learn the skills necessary to formulate policies, manage daily operations, and allocate the use of materials and human resources. This program of study will also introduce students to mathematical modeling tools and organizational evaluation methods

## Targeted Industry-Based certification(s) for this Program of Study:

All Microsoft Office Applications (various levels).

## PATHWAY COURSE SEQUENCE

### Principles of Business, Marketing, and Finance (One Credit)

PEIMS: 13011200 / Local Course Code 8617

Course 1, All Business Management and Administration pathway

### Business Information Management I (One Credit)

PEIMS: 13011400 / Local Course Code 8618

Course 2, Business Management and Administration pathway

Prerequisite: Successful completion of *Principles of Business, Marketing, and Finance*

### Business Information Management II (One Credit)

PEIMS: 13011500 / Local Course Code 8619

Course 3, Business Management and Administration pathway

Prerequisite: Successful completion of *Business Information Management I*

### Business Management (One Credit)

PEIMS: 13012100 / Local Course Code 8620

Course 4, Business Management and Administration pathway

Prerequisite: Successful completion of *BIM II (unless taken concurrently with BIM II)*

### Career Prep I (Two Credit)

PEIMS: 12701300 / Local Course Code 8520

This course does not follow a coherent sequence of CTE coursework at Royal High School

### Business English (One Credit)

PEIMS: 13011600 / Local Course Code 8622

Prerequisite: Must be enrolled in 12th grade; passing scores on 11th grade ELA STAAR Exam.

Satisfies Fourth Year "English-Language Arts" requirement for graduation.



# COSMETOLOGY AND HUMAN SERVICES

The Cosmetology and Human Services program of study introduces CTE learners to knowledge and skills related to providing beauty and personal care services. CTE concentrators may learn about or practice managing personal care facilities and coordinating or supervising personal service workers. Students who meet all requirements set forth by the Texas Department of Licensing & Regulations may earn a Cosmetology Operators License in this program of study.

**Targeted Industry-Based certification(s) for this Program of Study:**

Cosmetology Operators License through TDLR (Texas Department of Licensing & Regulations).

## PATHWAY COURSE SEQUENCE

### Principles of Cosmetology Design & Color Theory (One Credit)

PEIMS: 13025050 / Local Course Code 8200

Year 1, All Human Services pathway

General requirements. This course is recommended for students in Grade 9.

### Introduction to Cosmetology (One Credit)

PEIMS: 13025100 / Local Course Code 8201

Course 2, All Human Services pathway

General requirements. This course is recommended for students in Grade 10 who have passed Principles of Cosmetology Design & Color Theory.

### Cosmetology I (Two Credits)

PEIMS: 13025200 / Local Course Code 8203

Course 3, All Human Services pathway

General requirements. This course is recommended for students in Grade 11 who have passed Introduction to Cosmetology.

### Cosmetology II (Two-Three Credits)

PEIMS: 13025300 (Two Credits) / Local Course Code 8204

PEIMS: 13025310 (Three Credits)

Course 4, All Human Services pathway

General requirements. This course is recommended for students in Grade 12 who have passed Cosmetology I.



# HEALTH SCIENCE & TECHNOLOGY

The Health Science-Nursing Science program of study introduces students to the knowledge and skills related to patient care. CTE learners may learn about or practice caring for patients, routine procedures such as monitoring vital signs, development, and implementation of care plans, maintenance of medical records, and disease or pain management. Students may focus on the healthcare and research system designs and make recommended modifications. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others.

## Targeted Industry-Based certification(s) for this Program of Study:

Certified Pharmacy Technician

## PATHWAY COURSE SEQUENCE

### Principles of Health Science (One Credit)

PEIMS: 13020200 / Local Course Code 8450

Course 1, All Health Science & Technology pathway.

General requirement. This course is recommended for students in Grade 9.

### Medical Terminology (One Credit)

PEIMS: 13020300 / Local Course Code 8451

Course 2, all Health Science & Technology pathway.

Prerequisite: Principles of Health Science.

### Anatomy and Physiology (One Science Credit)

PEIMS: 13020600 / Local Course Code 8461

Course 3, all Health Science & Technology pathway.

Prerequisite: Passed Medical Terminology and Principles of Health Science

\* Satisfies 4th Science requirement for graduation.

### Practicum in Health Science (Three Credits)- “Clinical Rotation Class”

PEIMS: 13020505 Practicum in Health Science / Local Course Code 8452

Course 4, all Health Science & Technology pathway.

Mandatory Prerequisites: Anatomy & Physiology and Biology with a grade of C or better in each prerequisite.



# INDUSTRIAL WELDING

The Industrial Welding program of study focuses on the development and use of automatic, manual, and computer-controlled machines and fabrication tools/instruments that perform work on metal or plastic. CTE learners will learn how to modify parts to make or repair machine tools or maintain individual machines and how to use hand-welding or flame-cutting equipment.

**Targeted Industry-Based certification(s) for this Program of Study:**

American Welding Society (AWS); Various processes and positions.

## PATHWAY COURSE SEQUENCE

### Introduction to Welding (One Credit)

PEIMS: 13032250 / Local Course Code 8630

Course 1, all Manufacturing Programs of Study

General requirements. This course is recommended for students in Grades 9.

### Welding I (One Credit)

PEIMS: 13032300 / Local Course Code 8624

Course 2, Industrial Welding-Manufacturing pathway.

Prerequisite: Successful completion of Introduction to Welding.

### Welding II (Two Credits)

PEIMS: 13032400 / Local Course Code 8625

Course 3, Industrial Welding-Manufacturing pathway.

Prerequisite: Successful completion of Welding I.

### Practicum in Manufacturing or Welding IV (Two Credits)

PEIMS: 13033000 Practicum in Manufacturing I / Local Course Code 8627

Course 4, Industrial Welding-Manufacturing pathway.

Prerequisite: Successful completion of Welding II.



# MACHINING TECHNOLOGY

The Precision Machining Technology program of study focuses on the development and use of manual machines: lathes, mills, saws, presses, etc., that perform work on metal or plastic. CTE learners will learn to set up and operate various machine tools to produce precision parts and instruments. Students will also learn how to modify parts to make or repair machine tools or maintain individual machines. Blueprint reading and precision measuring are other competencies our students master throughout their four years in this fork of the Manufacturing pathway.

## Targeted Industry-Based certification(s) for this Program of Study:

National Institute of Metal Working Skills (NIMS).

## PATHWAY COURSE SEQUENCE

### Principles of Manufacturing or Machining (One Credit)

PEIMS: 13032200 / Local Course Code 8623

Course 1, all Manufacturing Programs of Study

General requirements. This course is recommended for students in Grades 9.

### Metal Fab & Machining I (One Credit)

PEIMS: 13032700 / Local Course Code 8629

Course 2, Machining Technology-Manufacturing pathway.

Prerequisite: Successful completion of Principles of Manufacturing

### Precision Metal Manufacturing (Two Credits)

PEIMS: 13032800 / Local Course Code 8628

Course 3, Machining Technology-Manufacturing pathway.

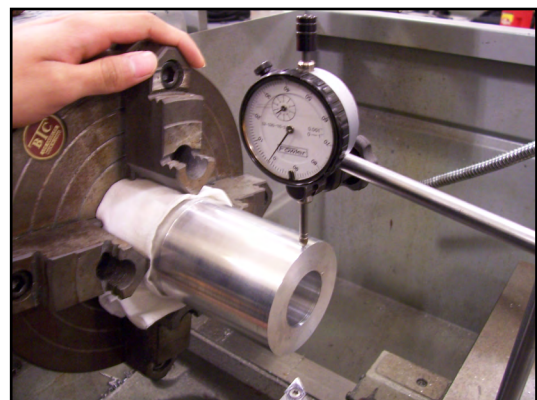
Prerequisite: Successful completion of Metal Fab & Machining I.

### Practicum in Manufacturing/Machining IV (Two Credits)

PEIMS: 13033000 Practicum in Manufacturing II / Local Course Code 8626

Course 4, Machining Technology-Manufacturing pathway.

Prerequisite: Successful completion of Precision Metal Manufacturing.



# TRANSPORTATION, DISTRIBUTION AND LOGISTICS PATHWAY

The Automotive program of study teaches CTE learners how to repair automobiles and service various types of vehicles. CTE learners may learn to schedule services and, order parts & supplies, and perform typical vehicle maintenance procedures such as lubrication, oil changes, installation of antifreeze, or replacement of accessories like wiper blades or tires. It also includes related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.

## Targeted Industry-Based certification(s) for this Program of Study:

ASE (Automotive Service Excellence) Entry-level; ASE Brakes; ASE Engine Mechanical & ASE Suspension.

## PATHWAY COURSE SEQUENCE

### Principles of Transportation Systems (One Credit)

PEIMS: 13039250 / Local Course Code 8401

Course 1, Transportation, Distribution, and Logistics pathway

General requirements. This course is recommended for students in Grades 9.

### Automotive Basics (One Credit)

PEIMS: 13039550 / Local Course Code 8402

Course 2, Transportation, Distribution and Logistics pathway

Prerequisite: Principles of Transportation Systems

### Automotive Technology I (Two Credit)

PEIMS: 13039600 / Local Course Code 8403

Course 3, Transportation, Distribution and Logistics pathway

Prerequisite: Automotive Basics

### Automotive Technology II (Two Credits)

PEIMS: 13039700 / Local Course Code 8404

Course 4, Transportation, Distribution and Logistics pathway

Prerequisite: Automotive Technology I.



# EDUCATION & TRAINING

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

**Targeted Industry-Based certification(s) for this Program of Study:**  
Educational Aide in Texas Public Schools.

## PATHWAY COURSE SEQUENCE

### Principles of Education & Training (One Credit)

PEIMS: 13014200 / Local Course Code 8710  
Course 1, Education & Training pathway  
General requirement: Enrollment is limited to grades 9 and 10.

### Human Growth & Development (One Credit)

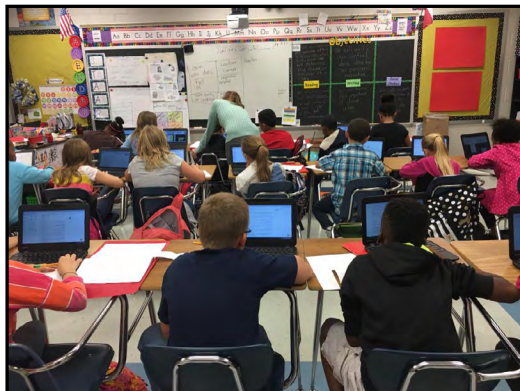
PEIMS: 13014300 / Local Course Code 8720  
Course 2, Education & Training pathway  
Prerequisite: Principles of Education & Training.

### Instructional Practices (Two credits)

PEIMS: 13014400 / Local Course Code 8730  
Course 3, Education & Training pathway  
Prerequisite: Human Growth & Development.

### Practicum in Education & Training/Clinicals (Two credits)

PEIMS: 13014505 / Local Course Code 8740  
Course 4, Education & Training pathway  
Prerequisite: Instructional Practices.



# STEM – SCIENCE, TECHNOLOGY, ENGINEERING & MATH

The (STEM) Engineering program of study focuses on the design, development, and use of engines, machines, and structures. CTE learners will learn to apply science, mathematical methods, and empirical evidence to manufacturing systems' innovation, design, construction, operation, and maintenance. The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing scientific research and professional and technical services, including laboratory and testing services and research and development services.

## Targeted Industry-Based certification(s) for this Program of Study:

AutoDesk Inventor Certified User & Fusion 360

## PATHWAY COURSE SEQUENCE

### Engineering Essentials (Year 1)

PEIMS: N1303760 / Local Course Code 8300

Course 1, STEM-Engineering pathway

General requirement: Enrollment limited to grade 9.

### Introduction to Engineering Design (Year 2)

PEIMS: N1303742 / Local Course Code 8301

Course 2, STEM-Engineering pathway

Prerequisite requirement: Engineering Essentials.

### Aerospace Engineering (Year 3)

PEIMS: N1303745 / Local Course Code 8303

Course 3, STEM-Engineering pathway

Prerequisite requirement: Introduction to Engineering Design.

### Engineering Design and Development (Year 4)

PEIMS: N1303749 / Local Course Code 8302

Course 4, STEM Engineering pathway

Prerequisite requirement: Aerospace Engineering.

# ROYAL JR. HIGH & STEM ACADEMY

## COURSES FOR 2024-2025

The following courses are designed to serve as foundations for our High School CTE programs of study. Please carefully consider your future as you select the elective options below at Royal Jr. High and the Royal STEM Academy:

### Technology Applications Pathway

6th grade - Career & College Exploration: Computer Technology Applications (PEIMS #12700110)  
7th grade - Technology Applications (PEIMS # 03580100)  
8th grade - Principles of Arts A/V Technology & Communications (High School Credit) (PEIMS # 13008200)

### Ag Science/Woodshop Pathway

6th grade - Career & College Exploration: Ag Science (PEIMS # 12700110)  
7th grade - Career & College Exploration: Ag Science II (PEIMS # 12700120)  
8th grade - Principles of Architecture (High School Credit) (PEIMS # 13004210)

### Construction “Skilled Trades” Pathway

6th grade - Career & College Exploration: General Trades (PEIMS # 12700110)  
7th grade - Career & College Exploration: Construction Applications (PEIMS #12700120)  
8th grade - Principles of Construction (High School Credit) (PEIMS # 13004220)

### 8th grade Required Elective

8th grade - General Employability Skills (1/2 High School Credit) (PEIMS # N1270153)

### STEM Academy PLTW Courses

6th grade - Project-Based Research: Gateway PLTW 1 (PEIMS # 12701500)  
7th grade - Project-Based Research: Gateway PLTW 2 (PEIMS #12701510)  
8th grade - Project-Based Research: Gateway PL TW 3 (PEIMS #12701520)

### STEM Ag Science Pathway

6th grade - Career & College Exploration: STEM Ag Science (PEIMS # 12700110)  
7th grade - Career & College Exploration: STEM Ag Science II (PEIMS # 12700120)  
8th grade - General Employability Skills (1/2 High School Credit) (PEIMS # N1270153)  
Career & College Exploration: STEM Ag Science III (PEIMS # 12700120)

# CAREER AND TECHNICAL STUDENT LEADERSHIP ORGANIZATIONS



CTE Student Leadership Organizations provide students with opportunities that extend their learning experiences outside of the classroom, and allow them to apply their interests to real-world applications. They are an integral part of the students' CTE experience. Local, area, and state memberships allow students to hold offices, compete in Leadership and Career Development events, as well as apply for scholarships should they choose to further their

education beyond High School. Listed below are Royal High School's CTE Student Leadership organizations. Please contact faculty and staff members of the respective program area for more information.



**Texas Future Business Leaders Association**  
[www.txfbla.org](http://www.txfbla.org)  
 Business Education



**Skills USA Association**  
[www.skillsusa.tx.org](http://www.skillsusa.tx.org)  
 Arts A/V, Automotive, Cosmetology, Health Science, Business Ed, Machining & Welding Technology



**Texas FFA Association**  
 Health Occupations Students of America  
[www.texasffa.org](http://www.texasffa.org)



**Health Occupations Students of America**  
[www.hosa.org](http://www.hosa.org)



**TAFE**  
 Texas Association of Future Educators  
[www.tafeonline.org](http://www.tafeonline.org)



**Agricultural Science**

**Hort/Floriculture   Animal Systems**

Prin of AFNR

\*\*Floral Design (22) ----Livestock Prod. (22)

Hort Science (22)-----Vet Med App. (22)

\*Adv. Plant Science (22) ---\*Adv. Animal Science (22)

\*\*Adv. Floral Design (22)----\*\*\*\*Math Apps in Ag (22)

Wildlife, Fisheries & Ecology Mgmt (22)/Food Science

Dual Credit Floral Design (Blinn College)

**Arts, A/V & Communications**

(Final Cut Pro X & Adobe Certifications)

Prin of Arts, A/V Technology (20)

Graphic Design & Illutration I (20)

Animation I (20)

Animation II (20)

Practicum of Graphic Design (20)

\*\*\*Professional Communications (25)

**Business Management**

(Microsoft Office App Certifications)

Prin of Business (22)

Business Information Management I (22)

Business Information Management II (22)

Business Management (22)

\*\*\*\*\* Business English (25)

Career Prep I

**Information Technology**

(Google Professional various levels)

Prin of Information Technology (22)

Computer Maintenance (22)

Computer Tech Practicum

Information Technology Practicum (22)

**Manufacturing Technology**

**Prec. Machining   Industrial Welding**

Prin of Manufacturing --(16)-- Intro to Welding Metal

Fab & Machining I --(16)---Welding I

Precision Metal Manu.----(16)----Welding II

Manufacturing Practicum--(16)--Welding Practicum

**Health Science & Technology**

(Certified Pharmacy Technician)

Prin of Health Science (22)

Medical Terminology (22)

\*Anatomy & Physiology (22)

Practicum in Health Sci./Clinicals (12)

**Transportation & Logistics**

(Automotive Service Excellence Cert)

Prin of Transportation Systems (16)

Automotive Basics (16)

Automotive Technology I (16)

Automotive Technology II (16)

**Education & Training**

(Educational Aide in TX Public Schools)

Prin of Education & Training (22)

Human Growth & Development (22)

Instructional Practices (22)

Practicum in Education & Training (22)



\*Satisfies "4<sup>th</sup> Science" requirement for graduation.

\*\* Satisfies "Fine Arts" requirement for graduation.

\*\*\* Satisfies Speech requirement for grad.

\*\*\*\* Satisfies "4th Math" requirement for graduation.

\*\*\*\*\* Satisfies "4<sup>th</sup> English" requirement for graduation

*Number in parentheses refers to student cap in class*

*(used by counselors for scheduling)*

**Cosmetology/ Human Services**

Principles of Cosmetology (22)

Introduction to Cosmetology (22)

Cosmetology I (22)

Cosmetology II (22)

**STEM - Engineering**

Engineering Essentials (22)

Intro to Engineering Design (22)

Aerospace Engineering (22)

Engineering Design and Development (22)

**Career & College Exploration (Middle School)**

Career & College Exploration: Computer Technology Applications Grade 6-8

Career & College Exploration: Ag Science Grade 6-8

Career & College Exploration: Principles of Construction Grade 6-8

Project-Based Research Grade 6-8 (STEM Academy PLTW)

General Employability Skills - Grade 8

Career & College Exploration: STEM Ag Science Grade 6-8



*One of our CTE Advisory Committees*

### **Parting Words from the Royal ISD Career & Technical Education Staff**

We want to say THANK YOU to our support network for allowing us to serve the students in this community. We appreciate the leadership of our elected school trustees and Royal ISD administration; the loyalty and support of our community leaders; and the guidance and advice of our business and industry partners and Advisory Committees. We would also like to recognize the alumni who proudly represent this school system as productive citizens and leaders in their chosen profession(s), regardless of their status or title. Since the inception of the John H. England Career & Technical Education Center, which opened in the school year 2008-2009, over 550 students have earned Industry-Based licenses and certifications in the following areas of study:

- |  |                                   |
|--|-----------------------------------|
| Pharmacy Technician  | Certified Veterinary Technician   |
| Cosmetology Operators License                                | Texas Association of Florists     |
| AWS-American Welding Society                                 | Microsoft Office Applications     |
| Final Cut Pro & Adobe Editing                                | ASE-Automotive Service Excellence |
| and finally, NIMS-National Institute of Metal Working Skills |                                   |

Students have also earned millions of dollars in scholarships, and sales of their projects through the CTE experience.

We salute all of our former students, and welcome the 1st year and returning cohorts to this program!







**Royal Independent School District  
Career & Technical Education Department**

Nick Gonzales, Director  
ngonzales@royal-isd.net

Physical address: 34499 Royal Rd. • Brookshire, Texas 77423  
Mailing address: P.O. Box 469 • Pattison, Texas 77466  
(281)934-6695 phone  
(281)934-2866 fax

---

*It is the policy of Royal ISD not to discriminate on the basis of race, color, national origin, sex, handicap, or age in its employment practices as required by Title VI of the Civil Rights Act of 1964, as amended; Title IX of the Education Amendments of 1972; the Age Discrimination Act of 1975, as amended; and Section 504 of the Rehabilitation Act of 1973, as amended. Furthermore, Royal ISD will take steps to assure that lack of English language skills will not be a barrier to admission and participation in all Educational and Career & Technical Education programs.*