Local Implementation Considerations:

Students completing two or more courses for two or more credits within a program of study earn concentrator status for Perkins V federal accountability reporting.

Proposed Indicator: Students finishing three or more courses for four or more credits with one course from a TEA recognized capstone course (in bold) within a program of study earn completer status for federal accountability reporting.
MIDDLE SCHOOL

CLUSTER & COURSES

ARCHITECTURE
8B100  Principles of Architecture (8)

ARTS, A/V TECHNOLOGY, AND COMMUNICATION
8C100  Principles of Arts, A/V, Technology, and Communication (8)
8C110  Professional Communications (8)
8C051S Professional Communications (AVID) (8)

BUSINESS, MARKETING & FINANCE
8D100  Principles of Business, Marketing, and Finance (8)
8F210  Banking and Financial Services (8)
8D210  Virtual Business (8)
8D505  GBL Principles of Business, Marketing, and Finance (Sellers only) (8)

HOSPITALITY AND TOURISM
8I100  Principles of Hospitality & Tourism (8)

HUMAN SERVICES
8J100  Principles of Human Services (8)

MANUFACTURING
8M100  Principles of Manufacturing (8)

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS
8O100  Principles of Applied Engineering
8O056  Fundamentals of Computer Science

PROJECT LEAD THE WAY (JACKSON ONLY) (7&8)
8O051  Gateway to Technology I (PLTW) Design and Modeling, and Automation and Robotics
8O052  Gateway to Technology 2 (PLTW) Applied Science and Technology
8O053  Gateway to Technology 3 (PLTW) Energy, Environment, and Flight
8O054  Gateway to Technology 4 (PLTW) Green Architecture, and Medical Detectives

TRANSPORTATION, DISTRIBUTION, AND LOGISTICS
8P053  Introduction to Transportation (8)
<table>
<thead>
<tr>
<th>CLUSTER</th>
<th>COURSE NUMBER</th>
<th>GRADE LEVEL</th>
<th>COURSE NAME</th>
<th>HIGH SCHOOL CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture &amp; Construction</td>
<td>8B100</td>
<td>8</td>
<td>Principles of Architecture</td>
<td>1</td>
</tr>
<tr>
<td>Arts, A/V Technology &amp; Communications</td>
<td>8C100</td>
<td>8</td>
<td>Principles of Arts, A/V Technology &amp; Communications</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>8C110S</td>
<td>8</td>
<td>Professional Communications</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>8C051S</td>
<td>8</td>
<td>Professional Communications (AVID)</td>
<td>0.5</td>
</tr>
<tr>
<td>Business, Marketing &amp; Finance</td>
<td>8D100</td>
<td>8</td>
<td>Principles of Business, Marketing &amp; Finance</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>8F210</td>
<td>8</td>
<td>Banking &amp; Financial Services</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>8D210</td>
<td>8</td>
<td>Virtual Business</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>8D505</td>
<td>8</td>
<td>GBL Principles of Business, Marketing &amp; Finance (Sellers only)</td>
<td>1</td>
</tr>
<tr>
<td>Hospitality &amp; Tourism</td>
<td>8I100</td>
<td>8</td>
<td>Principles of Hospitality &amp; Tourism</td>
<td>1</td>
</tr>
<tr>
<td>Human Services</td>
<td>8J100</td>
<td>8</td>
<td>Principals of Human Services</td>
<td>1</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>8M100</td>
<td>8</td>
<td>Principles of Manufacturing</td>
<td>1</td>
</tr>
<tr>
<td>Science, Technology, Engineering &amp; Mathematics</td>
<td>8O056</td>
<td>8</td>
<td>Fundamental of Computer Science</td>
<td>1</td>
</tr>
<tr>
<td>STEM PLTW - Project Lead the Way</td>
<td>8O051</td>
<td>7 &amp; 8</td>
<td>Gateway to Technology 1 – PLTW Design &amp; Modeling / Automation &amp; Robotics</td>
<td>0.5</td>
</tr>
<tr>
<td>(Jackson Tech only)</td>
<td>8O052</td>
<td>7 &amp; 8</td>
<td>Gateway to Technology 2 – PLTW Applied Science &amp; Technology</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>8O053</td>
<td>7 &amp; 8</td>
<td>Gateway to Technology 3 – PLTW Energy, Environment &amp; Flight</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>8O054</td>
<td>7 &amp; 8</td>
<td>Gateway to Technology 4 – PLTW Green Architecture &amp; Medical Detectives</td>
<td>0.5</td>
</tr>
<tr>
<td>Transportation, Distribution &amp; Logistics</td>
<td>8P053</td>
<td>8</td>
<td>Introduction to Transportation</td>
<td>0.5</td>
</tr>
<tr>
<td>Technology Applications</td>
<td>8R051S</td>
<td>7 &amp; 8</td>
<td>Computer Exploration</td>
<td>None</td>
</tr>
</tbody>
</table>
Banking and Financial Services
8F210S
TSDS PEIMS Code: 13016300 (BANKFIN)
Grade Placement: 8, Credit: 0.5
Prerequisites: None.
Recommended Prerequisite: Principles of Business, Marketing, and Finance.
In Banking and Financial Services, students will develop knowledge and skills in the economic, financial, technological, international, social, and ethical aspects of banking to become competent employees and entrepreneurs. Students will incorporate a broad base of knowledge that includes the operations, sales, and management of banking institutions to gain a complete understanding of how banks function within society.

Fundamentals of Computer Science
8O056
TSDS PEIMS Code: 03580140
Grade Placement: 8, Credit: 1
Prerequisite: None
Fundamentals of Computer Science is intended as a first course for those students just beginning the study of computer science. Students will learn about the computing tools that are used every day. Students will foster their creativity and innovation through opportunities to design, implement, and present solutions to real-world problems. Students will collaborate and use computer science concepts to access, analyze, and evaluate information needed to solve problems. Students will learn the problem-solving and reasoning skills that are the foundation of computer science. Knowledge and skills support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect.

Principles of Architecture
8B100
TSDS PEIMS Code: 13004210 (PRINARCH)
Grade Placement: 8–12, Credit: 1
Prerequisite: None.
Principles of Architecture provides an overview to the various fields of architecture, interior design, and Construction management. Achieving proficiency in decision making and problem solving is an essential skill for career planning and lifelong learning. Students use self-knowledge, education, and career information to set and achieve realistic career and educational goals. Job-specific training can be provided through training modules that identify career goals in trade and industry areas. Classroom studies include topics such as safety, work ethics, communication, information technology applications, systems, health, environment, leadership, teamwork, ethical and legal responsibility, employability, and career development and include skills such as problem solving, critical thinking, and reading technical drawings.

Principles of Arts, Audio/Video Technology, and Communications
8C100, (8C600 CCM at LCHS)
TSDS PEIMS Code: 13008200 (PRINAAVTC)
Grade Placement: 8-10, Credits: 1
Prerequisite: None.
The goal of this course is for the student understands arts, audio/video technology, and communications systems. Within this context, students will be expected to develop an understanding of the various and multifaceted career opportunities in this cluster and the knowledge, skills, and educational requirements for those opportunities.
Principles of Applied Engineering
8O100
TSDS PEIMS Code: 13036200 (PRAPPENG)
Grade Placement: 8–10, Credit: 1
Prerequisite: None.
Principles of Applied Engineering provides an overview of the various fields of science, technology, engineering, and mathematics and their interrelationships. Students will develop engineering communication skills, which include computer graphics, modeling, and presentations, by using a variety of computer hardware and software applications to complete assignments and projects. Upon completing this course, students will understand the various fields of engineering and will be able to make informed career decisions. Further, students will have worked on a design team to develop a product or system. Students will use multiple software applications to prepare and present course assignments.

Principles of Business, Marketing, and Finance
8D100, 8D505 GBL (Dual Credit option only in high school)
TSDS PEIMS Code: 13011200 (PRINBMF)
Grade Placement: 8–10, Credits: 1
Prerequisite: None.
In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance.

Principles of Hospitality and Tourism
8I100
TSDS PEIMS Code: 13022200 (PRINHOSP)
Grade Placement: 8–10, Credit: 1
Prerequisite: None.
Principles of Hospitality and Tourism introduces students to an industry that encompasses lodging, travel and tourism, recreation, amusements, attractions, and food/beverage operations. Students learn knowledge and skills focusing on communication, time management, and customer service that meet industry standards. Students will explore the history of the hospitality and tourism industry and examine characteristics needed for success in that industry.

Principles of Human Services
8J100
TSDS PEIMS Code: 13024200 (PRINHUSR)
Grade Placement: 8–12, Credit: 1
Prerequisite: None.
Principles of Human Services is a laboratory course that will enable students to investigate careers in the Human Services Career Cluster, including counseling and mental health, early childhood development, family and community, personal care, and consumer services. Each student is expected to complete the knowledge and skills essential for success in high-skill, high-wage, or high-demand human services careers.

Principles of Manufacturing
8M100
TSDS PEIMS Code: 13032200 (PRINMAN)
Grade Placement: 8–10, Credit: 1
Prerequisite: None
Recommended Prerequisites: Algebra I or Geometry.
In Principles of Manufacturing, students are introduced to knowledge and skills used in the proper application of principles of manufacturing. The study of manufacturing technology allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities. Students will gain an understanding of what employers require to gain and maintain employment in manufacturing careers.
Middle School Course Descriptions (For High School Credit)

Professional Communication
8C110S (R)
TSDS PEIMS Code: 13009900 (PROFCOMM)
Grade Placement: 8-12, Credit: 0.5
Prerequisite: None
Professional Communications blends written, oral, and graphic communication in a career-based environment. Careers in the global economy require individuals to be creative and have a strong background in computer and technology applications, a strong and solid academic foundation, and a proficiency in professional oral and written communication. Within this context, students will be expected to develop and expand the ability to write, read, edit, speak, listen, apply software applications, manipulate computer graphics, and conduct Internet research.

Professional Communication + AVID
8C051S
TSDS PEIMS Code: 13009900 (PROFCOMM)
Grade Placement: 8, Credits: .5
Prerequisite: Participation in the AVID Program
This course, which can be completed in middle school to meet the High School Speech credit. This course embeds the TEKS for Professional Communications in to the AVID elective course allowing students to earn 0.5 credit and Regular Grade Points for Professional Communications as well as completing the AVID elective.

Project Lead The Way (MST)
Gateway to Technology 1
Design and Modeling, and Automation and Robotics
8O051S (R) MST
TSDS PEIMS Code: N1303756 (GTT1)
Grade Placement: 7, Credit: 0.5
Prerequisite: None
Description: (Magnet course offered only at Jackson Technology Center) High School Elective
In the Design and Modeling unit, students begin to recognize the value of an engineering notebook to document and capture their ideas. They are introduced to and use the design process to solve problems and understand the influence that creative and innovative design has on our lives.

Project Lead The Way (MST)
Gateway to Technology 2
Applied Science and Technology
8O052S (R) MST
TSDS PEIMS Code: N1303757 (GTT2)
Grade Placement 7-8, Credit: 0.5
Prerequisite: None Description: (Magnet Course offered only at Jackson Technology Center),
The Energy and the Environment unit, students investigate the impact of energy on our lives and the environment. They design and model alternative energy sources and participate in an energy expo to demonstrate energy concepts and innovative ideas. Students evaluate ways to reduce energy consumption through energy efficiency and sustainability. In the Flight and Space unit, the rich history of aerospace comes alive through hands-on activities, research, and short informational video. Students explore the science behind aeronautics and use their knowledge to design, build and test an airfoil. Custom-built simulation software allows students to experience space travel. Students use industry standard 3D modeling software to create a virtual image of their designs and produce a portfolio to showcase their creative solutions. In the Automation and Robotics unit, students trace the history, development, and influence of automation and robotics. They learn about mechanical systems, energy transfer, machine automation and computer control systems. Students use a robust robotics platform to design, build, and program a solution to solve an existing problem.
Middle School Course Descriptions (For High School Credit)

Project Lead The Way (MST)
Gateway to Technology 3
Energy, Environment, and Flight
8O053S (R) MST
TSDS PEIMS Code: N1303758 (GTT3)
Grade Placement: 7-8, Credit: 0.5
Prerequisite: None
Description: (Magnet course offered only at Jackson Technology Center), In the Energy and the Environment unit, students investigate the impact of energy on our lives and the environment. They design and model alternative energy sources and participate in an energy expo to demonstrate energy concepts and innovative ideas. Students evaluate ways to reduce energy consumption through energy efficiency and sustainability. In the Flight and Space unit, the rich history of aerospace comes alive through hands-on activities, research, and a presentation in the form of a short informational video. Students explore the science behind aeronautics and use their knowledge to design, build and test an airfoil. Custom-built simulation software allows students to experience space travel.

Project Lead The Way (MST)
Gateway to Technology 4
Architecture & Biomedical Sciences
8O054S (R) MST
TSDS PEIMS Code: N1303759 (GTT4)
Grade Placement: 7-8, Credit: .5
Prerequisite: None
Description: High School Elective (Magnet Course offered only at Jackson Technology Center) Green Architecture (9 weeks) today’s students have grown up in an age of “green” choices. In this unit, students will learn how to apply this concept to the fields of architecture and construction by exploring dimensioning, measuring, and architectural sustainability as they design affordable housing units using Autodesk architectural design software. Medical Detectives (9 weeks) Students play the role of real-life medical detectives as they analyze genetic testing results to diagnose disease and study DNA evidence found at a crime scene. Students solve problems/mysteries through hands-on projects and labs, investigate how to measure and interpret vital signs, and learn how the systems of the human body work together to maintain health.

Introduction to Transportation Technology
8P053
TSDS PEIMS Code: 13039270 (INTRTEC)
Grade Placement 8, Credit: .5
Prerequisite: None.
Introduction to Transportation Technology includes knowledge of the major automotive systems and the principles of diagnosing and servicing these systems. Transportation Technology includes applicable safety and environmental rules and regulations. In Transportation Technology, students will gain knowledge and skills in the repair, maintenance, and diagnosis of transportation systems. This study will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability.

Virtual Business
8D210S
TSDS PEIMS Code: 13012000 (VIRTBUS)
Grade Placement: 8, Credits: 0.5
Prerequisite: None.
Recommended Prerequisites: Touch System Data Entry.
Virtual Business is designed for students to start a virtual business by creating a web presence, conducting online and off-line marketing, examining contracts appropriate for an online business, and demonstrating project-management skills. Students will also demonstrate bookkeeping skills for a virtual business, maintain business records, and understand legal issues associated with a virtual business.
Garland Independent School District offers career and technical education programs from the 16 nationally established career cluster areas. Admission to these programs is based on interest in subject, aptitude, required prerequisites and course availability.

It is the policy of Garland Independent School District not to discriminate on the basis of race, color, national origin, sex or handicap in its vocational programs, services or activities as required by Title VI of the Civil Rights Act of 1964, as amended; Title IX of the Education Amendments of 1972; and Section 504 of the Rehabilitation Act of 1973, as amended.

Garland Independent School District will take steps to assure that lack of English language skills will not be a barrier to admission and participation in all educational and vocational programs.

For information about your rights or grievance procedures, contact the Title IX Coordinator, Dr. Susanna Russell, Chief Leadership Officer at 501 S. Jupiter Road, Garland, TX 75042 (972) 487-3041, and/or the Section 504 Coordinator, Michael Clark, Coordinator, Special Education at 501 S. Jupiter Road, Garland, TX 75042 (972) 487-3310.