

Project 2.1: Material Planning

Content Area: **Applied Tech**
Course(s): **Generic Course**
Time Period: **Marking Period 1**
Length: **3-4 weeks**
Status: **Published**

Standards

12.9.3.12.TD.1	Describe the nature and scope of the Transportation, Distribution & Logistics Career Cluster and the role of transportation, distribution and logistics in society and the economy.
12.9.3.12.TD.2	Describe the application and use of new and emerging advanced techniques to provide solutions for transportation, distribution and logistics problems.
12.9.3.12.TD.3	Describe the key operational activities required of successful transportation, distribution and logistics facilities.
12.9.3.12.TD.4	Identify governmental policies and procedures for transportation, distribution and logistics facilities.
12.9.3.12.TD.5	Describe transportation, distribution and logistics employee rights and responsibilities and employers' obligations concerning occupational safety and health.
12.9.3.12.TD.6	Describe career opportunities and means to achieve those opportunities in each of the Transportation, Distribution & Logistics Career Pathways.
12.9.3.12.TD-LOG.1	Develop solutions to provide and manage logistics services for the company and customers.
12.9.3.12.TD-LOG.2	Analyze and improve performance of logistics systems to provide logistics planning and management services.
12.9.3.12.TD-OPS.1	Develop and evaluate transportation plans to move people and/or goods to meet customer requirements.
12.9.3.12.TD-OPS.2	Analyze performance of transportation operations in order to improve quality and service levels and increase efficiency.
12.9.3.12.TD-OPS.3	Comply with policies, laws and regulations in order to maintain safety, security and health and mitigate the economic and environmental risk of transportation operations.
12.9.3.12.TD-SYS.1	Develop plans to maintain and/or improve the transportation infrastructure.
12.9.3.12.TD-SYS.2	Assess, plan and manage the implementation of transportation services.
12.9.3.12.TD-SYS.3	Describe ways to improve the system utilization, flow, safety and environmental performance of transportation systems.
12.9.3.12.TD-WAR.1	Demonstrate efficient and effective warehouse and distribution center operations.
12.9.3.12.TD-WAR.2	Describe ways to improve the performance of warehouse and distribution operations.
12.9.3.12.TD-WAR.3	Analyze compliance with company policies and government laws and regulations in warehouse and distribution operations.
WRK.9.2.12.CAP.2	Develop college and career readiness skills by participating in opportunities such as structured learning experiences, apprenticeships, and dual enrollment programs.
TECH.9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12prof.CR3a).
TECH.9.4.12.CI.2	Identify career pathways that highlight personal talents, skills, and abilities (e.g., 1.4.12prof.CR2b, 2.2.12.LF.8).
TECH.9.4.12.CI.3	Investigate new challenges and opportunities for personal growth, advancement, and

transition (e.g., 2.1.12.PGD.1).

TECH.9.4.12.IML.2

Evaluate digital sources for timeliness, accuracy, perspective, credibility of the source, and relevance of information, in media, data, or other resources (e.g., NJLSA.W8, Social Studies Practice: Gathering and Evaluating Sources).

Applied Technology Standards

12.9.3.12.TD-LOG.1	Develop solutions to provide and manage logistics services for the company and customers.
12.9.3.12.TD-LOG.2	Analyze and improve performance of logistics systems to provide logistics planning and management services.
12.9.3.MN.6	Demonstrate workplace knowledge and skills common to manufacturing.
12.9.3.MN-LOG.4	Manage inventory using logistics and control processes and procedures.
12.9.3.MN-PPD.1	Produce quality products that meet manufacturing standards and exceed customer satisfaction.
12.9.3.TD-LOG	Logistics Planning & Management Services
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP5	Consider the environmental, social and economic impacts of decisions.
CRP.K-12.CRP6	Demonstrate creativity and innovation.
CRP.K-12.CRP7	Employ valid and reliable research strategies.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP9	Model integrity, ethical leadership and effective management.
CRP.K-12.CRP11	Use technology to enhance productivity.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.

Transfer Goals and Career Ready Practices

Transfer Goals

Students will gain an understanding of logistics and supply chain management which will help them understand how products they use and purchase make their way from the manufacturer to the end user.

Students will gain an understanding of the wide range of jobs available in the logistics and supply chain management field.

Students will gain 21st Century skills and related experiences which will benefit them in this career cluster in the future

Concepts

Essential Questions

What is Material Requirements Planning (MRP) and how do you use this tool to plan requirements for the materials that you will need to produce your product(s)?

What information do you need to create the material plan for each item?

What is a Bill of Materials (BOM) and how is it used in the MRP process to plan requirements for the materials that you will need to produce your product(s)?

Understandings

Students will understand how to develop a Bill of Materials (BOM) for a new table-and-chairs set, as well as use Material Requirements Planning (MRP) techniques to determine the quantities and delivery dates for each of the materials necessary to meet the production schedule.

Critical Knowledge and Skills

Knowledge

Students will know:

- what a Material Requirements Planning (MRP) is and how this tool is used to plan requirements for the materials that you will need to produce your product(s)
- how to create a MRP in Microsoft Excel
- what a Bill of Materials (BOM) is and how it is used in the MRP process to plan requirements for the materials that you will need to produce your product(s)
- how to create a BOM in a Microsoft Word table

Skills

Students will be able to:

- Create a Bill of Materials (BOM)
- Complete a Material Requirements Planning (MRP)
- Apply information about BOMs and MRPs to a real-life scenario

Assessment and Resources

School Formative Assessment Plan (Other Evidence)

- Professional Notebook - summarizing notes and articles
- Classwork activities - project management plans, optimization matrix, SWOT Analysis worksheets

School Summative Assessment Plan

- Formal Presentation of Completed Project to stakeholders
- End of Project Assessment - test

Primary Resources

Fundamentals of Supply Chain Management: A Practitioner's Perspective by William McLaury and Eugene Spiegle

PowerPoint Presentation

Supplementary Resources

- Online research
- Professional articles about BOMs and MRPs

-Professional videos about BOMs and MRPs

Technology Integration and Differentiated Instruction

Technology Integration

● Google Products

- Google Classroom - Used for daily interactions with the students covering a vast majority of different educational resources (Daily Notes, Exit Tickets, Classroom Polls, Quick Checks, Additional Resources/ Support, Homework, etc.)
- GAFE (Google Apps For Education) - Using various programs connected with Google to collaborate within the district, co-teachers, grade level partner teacher, and with students to stay connected with the content that is covered within the topic. Used to collect data in real time and see results upon completion of the assignments to allow for 21st century learning.

● One to One Student's laptop

- All students within the West Deptford School District are given a computer, allowing for 21st century learning to occur within every lesson/topic.

● Additional Support Videos

The videos below are just examples of videos that can be used to support each of the Lessons within this Topic. There are more additional videos provided for each and can be assigned from the Pearson enVisions 2.0 online textbook from the teachers' login.

Differentiated Instruction

Gifted Students (N.J.A.C.6A:8-3.1)

- Within each lesson, the Gifted Students are given choice on topic and subject matter allowing them to explore interests appropriate to their abilities, areas of interest and other courses.

English Language Learners (N.J.A.C.6A:15)

- Within each lesson, the English Language Learners are given choice of topic and resources so that their materials are within their ability to grasp the language.
- All assignments have been created in the student's native language.
- Work with ELL Teacher to allow for all assignments to be completed with extra time.

At-Risk Students (N.J.A.C.6A:8-4.3c)

- Within each lesson, the at-risk students are given choice of topic and resources so that their materials are within their ability level and high-interest.

Special Education Students (N.J.A.C.6A:8-3.1)

- Within each lesson, special education students are given choice of topic and resources so that their materials are within their ability level and high-interest.
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All other IEP modifications will be honored (ie. hard copies of notes, directions restated, etc.)

Interdisciplinary Connections

MATH – Students will apply algebra and statistical concepts learned in math courses to their projects.

SCIENCE – Students use scientific information and processes as appropriate to complete the projects.

SOCIAL STUDIES – Students will apply social skills learned through psychology when interacting in group projects.

LANGUAGE ARTS – Students will use appropriate writing skills in taking notes, as well as the creation of a formal written document for their unit project.

APPLIED TECHNOLOGY – Students will use technology through online resources, class website, Microsoft and Google applications, and email applications.

GLOBAL AWARENESS – Students will learn about individuals from different cultures and backgrounds through their research.

Learning Plan / Pacing Guide

Week	Lesson	Teacher Prep	Student Activity
1	1	Read Introduction, Driving Question, Project Description and Problem Statement	Read Introduction, Driving Question, Project Description and Problem Statement
	2-3	Prepare props and review videos	Complete Engaging Activity
	4	Hand out team contracts (choose teams)	Teams met, complete the mind-mapping exercise and make research assignments.
	5-6	Read relevant readings and fundamental concepts	Read relevant readings and watch assigned videos
2	7-10	Prepare Math lesson if included, Review Essential Vocabulary Definitions	Discussion as needed
			Find definitions for Essential Vocabulary
3-4	11-23	Monitor student progress	Complete Math lesson when included
			Conduct authentic research relevant to topic
		Invite authentic audience and schedule presentations	Share research findings with team members
5	24		Develop a solution
6	25-28	Monitor student progress	Present solution to an authentic audience
	29	Print End-of-Project Assessment	Revise solution and create Final Deliverable
	30		Take End-of-Project Assessment
			Participate in Roundtable Discussion

Project 2.2: Insourcing vs. Outsourcing

Content Area: **Applied Tech**
Course(s): **Generic Course**
Time Period: **Marking Period 1**
Length: **3-4 weeks**
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transition (e.g., 2.1.12.PGD.1).

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Concepts

Essential Questions

- What are the pros and cons of each sourcing option?
- What are contingencies to be considered for either sourcing option, which may weigh on the final decision?
- What features can you use to quantify quality?
- What are the scenarios that offer the best quality?
- How does quality impact your decision?
- What are the costs associated with each sourcing option?
- What non cost-related factors must be considered?
- Can you expect a higher profit margin with either option?
- What are the risks associated with each sourcing option?
- Does either sourcing option have any impact on the immediate success of the plan?
- Does either sourcing option have any impact on the long-term success of the plan?
- Does either sourcing option present any moral dilemmas?
- Does either sourcing option present any legal issues?
- Does either sourcing option represent industry standards? Does it have to?

Understandings

Students will understand reasons companies have for choosing to either insource or outsource parts of their business.

Critical Knowledge and Skills

Knowledge

Students will know:

- the components and format of a formal debate
- pros and cons of insourcing and outsourcing

Skills

Students will be able to:

- Describe pros and cons of both insourcing and outsourcing
- Apply information about Insourcing vs Outsourcing in a formal debate

Assessment and Resources

School Formative Assessment Plan (Other Evidence)

- Professional Notebook - summarizing notes and articles
- Classwork activities - project management plans, optimization matrix, SWOT Analysis worksheets

School Summative Assessment Plan

- Formal Presentation of Information learned through the form of an Insourcing vs Outsourcing Debate
- End of Project Assessment - test

Primary Resources

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Supplementary Resources

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5	24		Develop a solution
6	25-28	Monitor student progress	Present solution to an authentic audience
	29	Print End-of-Project Assessment	Revise solution and create Final Deliverable
	30		Take End-of-Project Assessment
			Participate in Roundtable Discussion

Project 2.3: Lean Manufacturing

Content Area: **Applied Tech**
Course(s): **Generic Course**
Time Period: **Marking Period 2**
Length: **3-4 weeks**
Status: **Published**

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Concepts

Essential Questions

What is Lean Manufacturing?

How does Lean Manufacturing benefit a company?

Understandings

Students will understand that Lean Manufacturing is a process to eliminate waste and maximize profits for a company.

Critical Knowledge and Skills

Knowledge

Students will know:

- the reasons a company would review their processes regarding Lean Manufacturing
- how Lean Manufacturing came about and its purposes

Skills

Students will be able to:

- Create a Lean Manufacturing training session
- Apply information about Lean Manufacturing to a real-life scenario

Assessment and Resources

School Formative Assessment Plan (Other Evidence)

- Professional Notebook - summarizing notes and articles
- Classwork activities - project management plans, optimization matrix, SWOT Analysis worksheets

School Summative Assessment Plan

- Formal Presentation of Lean Manufacturing through a "training lesson" and test to the audience
- End of Project Assessment - test

Primary Resources

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Supplementary Resources

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		Invite authentic audience and schedule presentations	Share research findings with team members
5	24		Develop a solution Present solution to an authentic audience
6	25-28	Monitor student progress	Revise solution and create Final Deliverable
	29	Print End-of-Project Assessment	Take End-of-Project Assessment
	30		Participate in Roundtable Discussion

Project 2.4: Warehouse Network and Location

Content Area: **Applied Tech**
Course(s): **Generic Course**
Time Period: **Marking Period 2**
Length: **3-4 weeks**
Status: **Published**

Standards

12.9.3.12.TD.1	Describe the nature and scope of the Transportation, Distribution & Logistics Career Cluster and the role of transportation, distribution and logistics in society and the economy.
12.9.3.12.TD.2	Describe the application and use of new and emerging advanced techniques to provide solutions for transportation, distribution and logistics problems.
12.9.3.12.TD.3	Describe the key operational activities required of successful transportation, distribution and logistics facilities.
12.9.3.12.TD.4	Identify governmental policies and procedures for transportation, distribution and logistics facilities.
12.9.3.12.TD.5	Describe transportation, distribution and logistics employee rights and responsibilities and employers' obligations concerning occupational safety and health.
12.9.3.12.TD.6	Describe career opportunities and means to achieve those opportunities in each of the Transportation, Distribution & Logistics Career Pathways.
12.9.3.12.TD-LOG.1	Develop solutions to provide and manage logistics services for the company and customers.
12.9.3.12.TD-LOG.2	Analyze and improve performance of logistics systems to provide logistics planning and management services.
12.9.3.12.TD-OPS.1	Develop and evaluate transportation plans to move people and/or goods to meet customer requirements.
12.9.3.12.TD-OPS.2	Analyze performance of transportation operations in order to improve quality and service levels and increase efficiency.
12.9.3.12.TD-OPS.3	Comply with policies, laws and regulations in order to maintain safety, security and health and mitigate the economic and environmental risk of transportation operations.
12.9.3.12.TD-SYS.1	Develop plans to maintain and/or improve the transportation infrastructure.
12.9.3.12.TD-SYS.2	Assess, plan and manage the implementation of transportation services.
12.9.3.12.TD-SYS.3	Describe ways to improve the system utilization, flow, safety and environmental performance of transportation systems.
12.9.3.12.TD-WAR.1	Demonstrate efficient and effective warehouse and distribution center operations.
12.9.3.12.TD-WAR.2	Describe ways to improve the performance of warehouse and distribution operations.
12.9.3.12.TD-WAR.3	Analyze compliance with company policies and government laws and regulations in warehouse and distribution operations.
WRK.9.2.12.CAP.2	Develop college and career readiness skills by participating in opportunities such as structured learning experiences, apprenticeships, and dual enrollment programs.
TECH.9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12prof.CR3a).
TECH.9.4.12.CI.2	Identify career pathways that highlight personal talents, skills, and abilities (e.g., 1.4.12prof.CR2b, 2.2.12.LF.8).
TECH.9.4.12.CI.3	Investigate new challenges and opportunities for personal growth, advancement, and

transition (e.g., 2.1.12.PGD.1).

TECH.9.4.12.IML.2

Evaluate digital sources for timeliness, accuracy, perspective, credibility of the source, and relevance of information, in media, data, or other resources (e.g., NJSLA.W8, Social Studies Practice: Gathering and Evaluating Sources).

Applied Technology Standards

12.9.3.12.TD-LOG.1	Develop solutions to provide and manage logistics services for the company and customers.
12.9.3.12.TD-LOG.2	Analyze and improve performance of logistics systems to provide logistics planning and management services.
12.9.3.MN.6	Demonstrate workplace knowledge and skills common to manufacturing.
12.9.3.MN-LOG.4	Manage inventory using logistics and control processes and procedures.
12.9.3.MN-PPD.1	Produce quality products that meet manufacturing standards and exceed customer satisfaction.
12.9.3.TD-LOG	Logistics Planning & Management Services
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP5	Consider the environmental, social and economic impacts of decisions.
CRP.K-12.CRP6	Demonstrate creativity and innovation.
CRP.K-12.CRP7	Employ valid and reliable research strategies.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP9	Model integrity, ethical leadership and effective management.
CRP.K-12.CRP11	Use technology to enhance productivity.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.

Transfer Goals and Career Ready Practices

Transfer Goals

Students will gain an understanding of logistics and supply chain management which will help them understand how products they use and purchase make their way from the manufacturer to the end user.

Students will gain an understanding of the wide range of jobs available in the logistics and supply chain management field.

Students will gain 21st Century skills and related experiences which will benefit them in this career cluster in the future

Concepts

Essential Questions

How many distribution center warehouses will a company need to cover the entire US market within a 3-day delivery window?

Which variables directly affect the viability of a particular city for the location of a distribution center warehouse?

Which location characteristics are absolute requirements for locating distribution center warehouses, and which have some flexibility?

Understandings

Students will understand the costs involved with setting up and running a distribution warehouse including labor costs, transportation costs and facility costs.

Critical Knowledge and Skills

Knowledge

Students will know:

- what cost factors are involved in creating a distribution warehouse
- population densities of the United States market
- what a hub and spoke warehouse network is and its advantages/disadvantages

Skills

Students will be able to:

- Evaluate location options for distribution warehouses in order to make a recommendation

- Consider costs involved with warehouse networks when making a recommendation
- Apply information about warehouse networks to a real-life scenario

Assessment and Resources

School Formative Assessment Plan (Other Evidence)

- Professional Notebook - summarizing notes and articles
- Classwork activities - project management plans, optimization matrix, SWOT Analysis worksheets

School Summative Assessment Plan

- Formal Presentation of Completed Project to stakeholders proposing a hub and spoke warehouse network for a real-life scenario
- End of Project Assessment - test

Primary Resources

Fundamentals of Supply Chain Management: A Practitioner's Perspective by William McLaury and Eugene Spiegle

PowerPoint Presentation

Supplementary Resources

- Online research
- Professional articles about warehouses and warehouse networks
- Professional videos about warehouses and warehouse networks

Technology Integration and Differentiated Instruction

Technology Integration

● Google Products

- Google Classroom - Used for daily interactions with the students covering a vast majority of different educational resources (Daily Notes, Exit Tickets, Classroom Polls, Quick Checks, Additional Resources/ Support, Homework, etc.)
- GAFE (Google Apps For Education) - Using various programs connected with Google to collaborate within the district, co-teachers, grade level partner teacher, and with students to stay connected with the content that is covered within the topic. Used to collect data in real time and see results upon completion of the assignments to allow for 21st century learning.

● One to One Student's laptop

- All students within the West Deptford School District are given a computer, allowing for 21st century learning to occur within every lesson/topic.

● Additional Support Videos

The videos below are just examples of videos that can be used to support each of the Lessons within this Topic. There are more additional videos provided for each and can be assigned from the Pearson enVisions 2.0 online textbook from the teachers' login.

Differentiated Instruction

Gifted Students (N.J.A.C.6A:8-3.1)

- Within each lesson, the Gifted Students are given choice on topic and subject matter allowing them to explore interests appropriate to their abilities, areas of interest and other courses.

English Language Learners (N.J.A.C.6A:15)

- Within each lesson, the English Language Learners are given choice of topic and resources so that their

materials are within their ability to grasp the language.

- All assignments have been created in the student's native language.
- Work with ELL Teacher to allow for all assignments to be completed with extra time.

At-Risk Students (N.J.A.C.6A:8-4.3c)

- Within each lesson, the at-risk students are given choice of topic and resources so that their materials are within their ability level and high-interest.

Special Education Students (N.J.A.C.6A:8-3.1)

- Within each lesson, special education students are given choice of topic and resources so that their materials are within their ability level and high-interest.
- All content will be modeled with examples and all essays are built on a step-by-step basis so modifications for assignments in small chunks are met.

All other IEP modifications will be honored (ie. hard copies of notes, directions restated, etc.)

Interdisciplinary Connections

MATH – Students will apply algebra and statistical concepts learned in math courses to their projects.

SCIENCE – Students use scientific information and processes as appropriate to complete the projects.

SOCIAL STUDIES – Students will apply social skills learned through psychology when interacting in group projects.

LANGUAGE ARTS – Students will use appropriate writing skills in taking notes, as well as the creation of a formal written document for their unit project.

APPLIED TECHNOLOGY – Students will use technology through online resources, class website, Microsoft and Google applications, and email applications.

GLOBAL AWARENESS – Students will learn about individuals from different cultures and backgrounds through their research.

Learning Plan / Pacing Guide

Week	Lesson	Teacher Prep	Student Activity
1	1	Read Introduction, Driving Question, Project Description and Problem Statement	Read Introduction, Driving Question, Project Description and Problem Statement
	2-3	Prepare props and review videos	Complete Engaging Activity
	4	Hand out team contracts (choose teams)	Teams met, complete the mind-mapping exercise and make research assignments.
	5-6	Read relevant readings and fundamental concepts	Read relevant readings and watch assigned videos
2	7-10	Prepare Math lesson if included, Review Essential Vocabulary Definitions	Discussion as needed
			Find definitions for Essential Vocabulary
3-4	11-23	Monitor student progress	Complete Math lesson when included
			Conduct authentic research relevant to topic
		Invite authentic audience and schedule presentations	Share research findings with team members
5	24		Develop a solution
6	25-28	Monitor student progress	Present solution to an authentic audience
			Revise solution and create Final Deliverable
	29	Print End-of-Project Assessment	Take End-of-Project Assessment
	30		Participate in Roundtable Discussion

Project 2.5: Inventory Management

Content Area: **Applied Tech**
Course(s): **Generic Course**
Time Period: **Marking Period 3**
Length: **3-4 weeks**
Status: **Published**

Standards

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12.9.3.12.TD.3	Describe the key operational activities required of successful transportation, distribution and logistics facilities.
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12.9.3.12.TD-LOG.2	Analyze and improve performance of logistics systems to provide logistics planning and management services.
12.9.3.12.TD-OPS.1	Develop and evaluate transportation plans to move people and/or goods to meet customer requirements.
12.9.3.12.TD-OPS.2	Analyze performance of transportation operations in order to improve quality and service levels and increase efficiency.
12.9.3.12.TD-SYS.1	Develop plans to maintain and/or improve the transportation infrastructure.
12.9.3.12.TD-SYS.2	Assess, plan and manage the implementation of transportation services.
12.9.3.12.TD-SYS.3	Describe ways to improve the system utilization, flow, safety and environmental performance of transportation systems.
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12.9.3.12.TD-WAR.2	Describe ways to improve the performance of warehouse and distribution operations.
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WRK.9.2.12.CAP.2	Develop college and career readiness skills by participating in opportunities such as structured learning experiences, apprenticeships, and dual enrollment programs.
TECH.9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12prof.CR3a).
TECH.9.4.12.CI.2	Identify career pathways that highlight personal talents, skills, and abilities (e.g., 1.4.12prof.CR2b, 2.2.12.LF.8).
TECH.9.4.12.CI.3	Investigate new challenges and opportunities for personal growth, advancement, and transition (e.g., 2.1.12.PGD.1).
TECH.9.4.12.IML.2	Evaluate digital sources for timeliness, accuracy, perspective, credibility of the source, and

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Applied Technology Standards

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12.9.3.12.TD-LOG.2	Analyze and improve performance of logistics systems to provide logistics planning and management services.
12.9.3.MN.6	Demonstrate workplace knowledge and skills common to manufacturing.
12.9.3.MN-LOG.4	Manage inventory using logistics and control processes and procedures.
12.9.3.MN-PPD.1	Produce quality products that meet manufacturing standards and exceed customer satisfaction.
12.9.3.TD-LOG	Logistics Planning & Management Services
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
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CRP.K-12.CRP11	Use technology to enhance productivity.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.

Transfer Goals and Career Ready Practices

Transfer Goals

Students will gain an understanding of logistics and supply chain management which will help them understand how products they use and purchase make their way from the manufacturer to the end user.

Students will gain an understanding of the wide range of jobs available in the logistics and supply chain management field.

Students will gain 21st Century skills and related experiences which will benefit them in this career cluster in the future

Concepts

Essential Questions

- What is involved in determining the inventory factor values for these new products?
- What additional information do we need to know about inventory policies?
- How will we work together to complete the project successfully?
- How do our proposed inventory factor values meet the needs of various stakeholders?
- How can we revise/improve our inventory policies based on feedback?
- How might we need to adjust our best-case solution based on real-life circumstances?
- Which variables have the greatest impact on the success of our inventory policies?
- What negative results do we create by selecting a particular inventory parameter value?

Understandings

Students will understand how to develop a inventory management plan determining (1) the Reorder Point, (2) the Reorder Quantity, (3) the Forecast Error, and (4) the Safety Stock Quantity of new products.

Critical Knowledge and Skills

Knowledge

Students will know:

- the definitions of reorder point, safety stock and sales forecasting

-

Skills

Students will be able to:

- Complete math-related exercises to propose reorder points and quantities, as well as safety stock levels
- Complete an inventory management proposal

- Apply information about inventory management and reorder points to a real-life scenario

Assessment and Resources

School Formative Assessment Plan (Other Evidence)

- Professional Notebook - summarizing notes and articles
- Classwork activities - project management plans, optimization matrix, SWOT Analysis worksheets

School Summative Assessment Plan

- Formal Presentation of Completed Project to stakeholders
- End of Project Assessment - test

Primary Resources

Fundamentals of Supply Chain Management: A Practitioner's Perspective by William McLaury and Eugene Spiegle

PowerPoint Presentation

Supplementary Resources

- Online research
- Professional articles about inventory management concepts
- Professional videos about inventory management concepts

Technology Integration and Differentiated Instruction

Technology Integration

● Google Products

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Differentiated Instruction

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English Language Learners (N.J.A.C.6A:15)

Within each lesson, the English Language Learners are given choice of topic and resources so that their materials are within their ability to grasp the language.

All assignments have been created in the student's native language.

- ❑ Work with ELL Teacher to allow for all assignments to be completed with extra time.

At-Risk Students (N.J.A.C.6A:8-4.3c)

- ❑ Within each lesson, the at-risk students are given choice of topic and resources so that their materials are within their ability level and high-interest.

Special Education Students (N.J.A.C.6A:8-3.1)

- ❑ Within each lesson, special education students are given choice of topic and resources so that their materials are within their ability level and high-interest.
- ❑ All content will be modeled with examples and all essays are built on a step-by-step basis so modifications for assignments in small chunks are met.

All other IEP modifications will be honored (ie. hard copies of notes, directions restated, etc.)

Interdisciplinary Connections

MATH – Students will apply algebra and statistical concepts learned in math courses to their projects.

SCIENCE – Students use scientific information and processes as appropriate to complete the projects.

SOCIAL STUDIES – Students will apply social skills learned through psychology when interacting in group projects.

LANGUAGE ARTS – Students will use appropriate writing skills in taking notes, as well as the creation of a formal written document for their unit project.

APPLIED TECHNOLOGY – Students will use technology through online resources, class website, Microsoft and Google applications, and email applications.

GLOBAL AWARENESS – Students will learn about individuals from different cultures and backgrounds through their research.

Learning Plan / Pacing Guide

Week	Lesson	Teacher Prep	Student Activity
1	1	Read Introduction, Driving Question, Project Description	Read Introduction, Driving Question, Project Description and Problem Statement

		and Problem Statement	
	2-3	Prepare props and review videos	Complete Engaging Activity
	4	Hand out team contracts (choose teams)	Teams met, complete the mind-mapping exercise and make research assignments.
	5-6	Read relevant readings and fundamental concepts	Read relevant readings and watch assigned videos
			Discussion as needed
2	7-10	Prepare Math lesson if included, Review Essential Vocabulary Definitions	Find definitions for Essential Vocabulary
			Complete Math lesson when included
3-4	11-23	Monitor student progress	Conduct authentic research relevant to topic
		Invite authentic audience and schedule presentations	Share research findings with team members
			Develop a solution
5	24		Present solution to an authentic audience
6	25-28	Monitor student progress	Revise solution and create Final Deliverable
	29	Print End-of-Project Assessment	Take End-of-Project Assessment
	30		Participate in Roundtable Discussion

Project 2.6: Strategic Sourcing & Category Management

Content Area: **Applied Tech**
Course(s): **Generic Course**
Time Period: **Marking Period 3**
Length: **3-4 weeks**
Status: **Published**

Standards

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12.9.3.12.TD.6	Describe career opportunities and means to achieve those opportunities in each of the Transportation, Distribution & Logistics Career Pathways.
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12.9.3.12.TD-OPS.1	Develop and evaluate transportation plans to move people and/or goods to meet customer requirements.
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12.9.3.12.TD-SYS.1	Develop plans to maintain and/or improve the transportation infrastructure.
12.9.3.12.TD-SYS.2	Assess, plan and manage the implementation of transportation services.
12.9.3.12.TD-SYS.3	Describe ways to improve the system utilization, flow, safety and environmental performance of transportation systems.
12.9.3.12.TD-WAR.1	Demonstrate efficient and effective warehouse and distribution center operations.
12.9.3.12.TD-WAR.2	Describe ways to improve the performance of warehouse and distribution operations.
12.9.3.12.TD-WAR.3	Analyze compliance with company policies and government laws and regulations in warehouse and distribution operations.
WRK.9.2.12.CAP.2	Develop college and career readiness skills by participating in opportunities such as structured learning experiences, apprenticeships, and dual enrollment programs.
TECH.9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12prof.CR3a).
TECH.9.4.12.CI.2	Identify career pathways that highlight personal talents, skills, and abilities (e.g.,

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TECH.9.4.12.CI.3	Investigate new challenges and opportunities for personal growth, advancement, and transition (e.g., 2.1.12.PGD.1).
TECH.9.4.12.IML.2	Evaluate digital sources for timeliness, accuracy, perspective, credibility of the source, and relevance of information, in media, data, or other resources (e.g., NJLSA.W8, Social Studies Practice: Gathering and Evaluating Sources).

Applied Technology Standards

12.9.3.12.TD-LOG.1	Develop solutions to provide and manage logistics services for the company and customers.
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CRP.K-12.CRP12	Work productively in teams while using cultural global competence.

Transfer Goals and Career Ready Practices

Transfer Goals

Students will gain an understanding of logistics and supply chain management which will help them understand how products they use and purchase make their way from the manufacturer to the end user.

Students will gain an understanding of the wide range of jobs available in the logistics and supply chain management field.

Students will gain 21st Century skills and related experiences which will benefit them in this career cluster in the future

Concepts

Essential Questions

- What is a Spend Analysis and how can you use it to categorize your company's MRO spend?
- What are the Vlookup and Pivot Table functions in Microsoft Excel and how can you use them to analyze the spend data?
- How can you determine how much money is being spent on each individual item?
- How can you determine how much money is being spent in each MRO category?
- How can you determine how much money is being spent with each individual supplier?
- How can you determine if a product seems to have too many or too few suppliers?
- What issues can you identify by observing irregularities in the data?

Understandings

Students will understand what Maintenance, Repair and Operating (MRO) items are, what Vlookup and Pivot Table functions are in Microsoft Excel, and how to use these resources to complete a Spend Analysis.

Critical Knowledge and Skills

Knowledge

Students will know:

- what a Maintenance, Repair and Operating (MRO) is
- how to use Vlookup and Pivot Tables in Microsoft Excel
- what a spend analysis is and how it can be of benefit to a company

Skills

Students will be able to:

- Manipulate data in Microsoft Excel using Vlookup and Pivot Tables
- Apply information about MROs, Vlookup and Pivot Tables to a real-life scenario

Assessment and Resources

School Formative Assessment Plan (Other Evidence)

- Professional Notebook - summarizing notes and articles
- Classwork activities - project management plans, optimization matrix, SWOT Analysis worksheets

School Summative Assessment Plan

- Formal Presentation of Completed Project to stakeholders
- End of Project Assessment - test

Primary Resources

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PowerPoint Presentation

Supplementary Resources

- Online research
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Technology Integration

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	4	Hand out team contracts (choose teams)	Teams met, complete the mind-mapping exercise and make research assignments.
	5-6	Read relevant readings and fundamental concepts	Read relevant readings and watch assigned videos
2	7-10	Prepare Math lesson if included, Review Essential Vocabulary Definitions	Discussion as needed
			Find definitions for Essential Vocabulary
3-4	11-23	Monitor student progress	Complete Math lesson when included
			Conduct authentic research relevant to topic
		Invite authentic audience and schedule presentations	Share research findings with team members
5	24		Develop a solution
6	25-28	Monitor student progress	Present solution to an authentic audience
			Revise solution and create Final Deliverable
	29	Print End-of-Project Assessment	Take End-of-Project Assessment
	30		Participate in Roundtable Discussion

Project 2.7: Six Sigma

Content Area: **Applied Tech**
Course(s): **Generic Course**
Time Period: **Marking Period 1**
Length: **3-4 weeks**
Status: **Published**

Standards

12.9.3.12.TD.1	Describe the nature and scope of the Transportation, Distribution & Logistics Career Cluster and the role of transportation, distribution and logistics in society and the economy.
12.9.3.12.TD.2	Describe the application and use of new and emerging advanced techniques to provide solutions for transportation, distribution and logistics problems.
12.9.3.12.TD.3	Describe the key operational activities required of successful transportation, distribution and logistics facilities.
12.9.3.12.TD.4	Identify governmental policies and procedures for transportation, distribution and logistics facilities.
12.9.3.12.TD.5	Describe transportation, distribution and logistics employee rights and responsibilities and employers' obligations concerning occupational safety and health.
12.9.3.12.TD.6	Describe career opportunities and means to achieve those opportunities in each of the Transportation, Distribution & Logistics Career Pathways.
12.9.3.12.TD-HSE.1	Describe the health, safety and environmental rules and regulations in transportation, distribution and logistics workplaces.
12.9.3.12.TD-HSE.2	Develop solutions to improve performance of health, safety and environmental management services.
12.9.3.12.TD-LOG.1	Develop solutions to provide and manage logistics services for the company and customers.
12.9.3.12.TD-LOG.2	Analyze and improve performance of logistics systems to provide logistics planning and management services.
12.9.3.12.TD-MTN.2	Design ways to improve facility and equipment system performance.
12.9.3.12.TD-OPS.1	Develop and evaluate transportation plans to move people and/or goods to meet customer requirements.
12.9.3.12.TD-OPS.2	Analyze performance of transportation operations in order to improve quality and service levels and increase efficiency.
12.9.3.12.TD-OPS.3	Comply with policies, laws and regulations in order to maintain safety, security and health and mitigate the economic and environmental risk of transportation operations.
12.9.3.12.TD-SYS.1	Develop plans to maintain and/or improve the transportation infrastructure.
12.9.3.12.TD-SYS.2	Assess, plan and manage the implementation of transportation services.
12.9.3.12.TD-SYS.3	Describe ways to improve the system utilization, flow, safety and environmental performance of transportation systems.
12.9.3.12.TD-WAR.1	Demonstrate efficient and effective warehouse and distribution center operations.
12.9.3.12.TD-WAR.2	Describe ways to improve the performance of warehouse and distribution operations.
12.9.3.12.TD-WAR.3	Analyze compliance with company policies and government laws and regulations in warehouse and distribution operations.
WRK.9.2.12.CAP.2	Develop college and career readiness skills by participating in opportunities such as structured learning experiences, apprenticeships, and dual enrollment programs.

TECH.9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12prof.CR3a).
TECH.9.4.12.CI.2	Identify career pathways that highlight personal talents, skills, and abilities (e.g., 1.4.12prof.CR2b, 2.2.12.LF.8).
TECH.9.4.12.CI.3	Investigate new challenges and opportunities for personal growth, advancement, and transition (e.g., 2.1.12.PGD.1).
TECH.9.4.12.IML.2	Evaluate digital sources for timeliness, accuracy, perspective, credibility of the source, and relevance of information, in media, data, or other resources (e.g., NJLSA.W8, Social Studies Practice: Gathering and Evaluating Sources).

Applied Technology Standards

12.9.3.12.TD-LOG.1	Develop solutions to provide and manage logistics services for the company and customers.
12.9.3.12.TD-LOG.2	Analyze and improve performance of logistics systems to provide logistics planning and management services.
12.9.3.MN.6	Demonstrate workplace knowledge and skills common to manufacturing.
12.9.3.MN-LOG.4	Manage inventory using logistics and control processes and procedures.
12.9.3.MN-PPD.1	Produce quality products that meet manufacturing standards and exceed customer satisfaction.
12.9.3.TD-LOG	Logistics Planning & Management Services
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP5	Consider the environmental, social and economic impacts of decisions.
CRP.K-12.CRP6	Demonstrate creativity and innovation.
CRP.K-12.CRP7	Employ valid and reliable research strategies.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP9	Model integrity, ethical leadership and effective management.
CRP.K-12.CRP11	Use technology to enhance productivity.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.

Transfer Goals and Career Ready Practices

Transfer Goals

Students will gain an understanding of logistics and supply chain management which will help them understand how products they use and purchase make their way from the manufacturer to the end user.

Students will gain an understanding of the wide range of jobs available in the logistics and supply chain

management field.

Students will gain 21st Century skills and related experiences which will benefit them in this career cluster in the future

Concepts

Essential Questions

What is Six Sigma?

How can implementing Six Sigma benefit a company?

Which key concepts about Six Sigma will you include in your guest lecture?

How will you present the key concepts so that the business school students will understand them?

Understandings

Students will understand the Six Sigma program and teach the key concepts to an authentic audience and check for understanding.

Critical Knowledge and Skills

Knowledge

Students will know:

- what Six Sigma is and how a company can benefit from implementing the program
- the key concepts and ideas about Six Sigma that should be conveyed to their audience to teach the concepts

Skills

Students will be able to:

- Understand and explain Six Sigma
- Apply information about Six Sigma to a real-life scenario

Assessment and Resources

School Formative Assessment Plan (Other Evidence)

- Professional Notebook - summarizing notes and articles
- Classwork activities - project management plans, optimization matrix, SWOT Analysis worksheets

School Summative Assessment Plan

- Formal Presentation of Completed Project to stakeholders
- End of Project Assessment - test

Primary Resources

Fundamentals of Supply Chain Management: A Practitioner's Perspective by William McLaury and Eugene Spiegle

PowerPoint Presentation

Supplementary Resources

- Online research
- Professional articles about Six Sigma
- Professional videos about Six Sigma

Technology Integration and Differentiated Instruction

Technology Integration

● Google Products

- Google Classroom - Used for daily interactions with the students covering a vast majority of different educational resources (Daily Notes, Exit Tickets, Classroom Polls, Quick Checks, Additional Resources/ Support, Homework, etc.)
- GAFE (Google Apps For Education) - Using various programs connected with Google to collaborate within the district, co-teachers, grade level partner teacher, and with students to stay connected with the content that is covered within the topic. Used to collect data in real time and see results upon completion of the assignments to allow for 21st century learning.

● One to One Student's laptop

- All students within the West Deptford School District are given a computer, allowing for 21st century learning to occur within every lesson/topic.

● Additional Support Videos

The videos below are just examples of videos that can be used to support each of the Lessons within this Topic. There are more additional videos provided for each and can be assigned from the Pearson enVisions 2.0 online textbook from the teachers' login.

Differentiated Instruction

Gifted Students (N.J.A.C.6A:8-3.1)

- Within each lesson, the Gifted Students are given choice on topic and subject matter allowing them to explore interests appropriate to their abilities, areas of interest and other courses.

English Language Learners (N.J.A.C.6A:15)

- Within each lesson, the English Language Learners are given choice of topic and resources so that their

materials are within their ability to grasp the language.

- All assignments have been created in the student's native language.
- Work with ELL Teacher to allow for all assignments to be completed with extra time.

At-Risk Students (N.J.A.C.6A:8-4.3c)

- Within each lesson, the at-risk students are given choice of topic and resources so that their materials are within their ability level and high-interest.

Special Education Students (N.J.A.C.6A:8-3.1)

- Within each lesson, special education students are given choice of topic and resources so that their materials are within their ability level and high-interest.
- All content will be modeled with examples and all essays are built on a step-by-step basis so modifications for assignments in small chunks are met.

All other IEP modifications will be honored (ie. hard copies of notes, directions restated, etc.)

Interdisciplinary Connections

MATH – Students will apply algebra and statistical concepts learned in math courses to their projects.

SCIENCE – Students use scientific information and processes as appropriate to complete the projects.

SOCIAL STUDIES – Students will apply social skills learned through psychology when interacting in group projects.

LANGUAGE ARTS – Students will use appropriate writing skills in taking notes, as well as the creation of a formal written document for their unit project.

APPLIED TECHNOLOGY – Students will use technology through online resources, class website, Microsoft and Google applications, and email applications.

GLOBAL AWARENESS – Students will learn about individuals from different cultures and backgrounds through their research.

Learning Plan / Pacing Guide

Week	Lesson	Teacher Prep	Student Activity
1	1	Read Introduction, Driving Question, Project Description and Problem Statement	Read Introduction, Driving Question, Project Description and Problem Statement
	2-3	Prepare props and review videos	Complete Engaging Activity
	4	Hand out team contracts (choose teams)	Teams met, complete the mind-mapping exercise and make research assignments.
	5-6	Read relevant readings and fundamental concepts	Read relevant readings and watch assigned videos
2	7-10	Prepare Math lesson if included, Review Essential Vocabulary Definitions	Discussion as needed
			Find definitions for Essential Vocabulary
3-4	11-23	Monitor student progress	Complete Math lesson when included
			Conduct authentic research relevant to topic
		Invite authentic audience and schedule presentations	Share research findings with team members
5	24		Develop a solution
6	25-28	Monitor student progress	Present solution to an authentic audience
			Revise solution and create Final Deliverable
	29	Print End-of-Project Assessment	Take End-of-Project Assessment
	30		Participate in Roundtable Discussion

Project 2.8: Transportation Freight Loading

Content Area: **Applied Tech**
Course(s): **Generic Course**
Time Period: **Marking Period 1**
Length: **3-4 weeks**
Status: **Published**

Standards

12.9.3.12.TD.1	Describe the nature and scope of the Transportation, Distribution & Logistics Career Cluster and the role of transportation, distribution and logistics in society and the economy.
12.9.3.12.TD.2	Describe the application and use of new and emerging advanced techniques to provide solutions for transportation, distribution and logistics problems.
12.9.3.12.TD.3	Describe the key operational activities required of successful transportation, distribution and logistics facilities.
12.9.3.12.TD.4	Identify governmental policies and procedures for transportation, distribution and logistics facilities.
12.9.3.12.TD.5	Describe transportation, distribution and logistics employee rights and responsibilities and employers' obligations concerning occupational safety and health.
12.9.3.12.TD.6	Describe career opportunities and means to achieve those opportunities in each of the Transportation, Distribution & Logistics Career Pathways.
12.9.3.12.TD-LOG.1	Develop solutions to provide and manage logistics services for the company and customers.
12.9.3.12.TD-LOG.2	Analyze and improve performance of logistics systems to provide logistics planning and management services.
12.9.3.12.TD-OPS.1	Develop and evaluate transportation plans to move people and/or goods to meet customer requirements.
12.9.3.12.TD-OPS.2	Analyze performance of transportation operations in order to improve quality and service levels and increase efficiency.
12.9.3.12.TD-OPS.3	Comply with policies, laws and regulations in order to maintain safety, security and health and mitigate the economic and environmental risk of transportation operations.
12.9.3.12.TD-SYS.1	Develop plans to maintain and/or improve the transportation infrastructure.
12.9.3.12.TD-SYS.2	Assess, plan and manage the implementation of transportation services.
12.9.3.12.TD-SYS.3	Describe ways to improve the system utilization, flow, safety and environmental performance of transportation systems.
12.9.3.12.TD-WAR.1	Demonstrate efficient and effective warehouse and distribution center operations.
12.9.3.12.TD-WAR.2	Describe ways to improve the performance of warehouse and distribution operations.
12.9.3.12.TD-WAR.3	Analyze compliance with company policies and government laws and regulations in warehouse and distribution operations.
WRK.9.2.12.CAP.2	Develop college and career readiness skills by participating in opportunities such as structured learning experiences, apprenticeships, and dual enrollment programs.
TECH.9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12prof.CR3a).
TECH.9.4.12.CI.2	Identify career pathways that highlight personal talents, skills, and abilities (e.g., 1.4.12prof.CR2b, 2.2.12.LF.8).
TECH.9.4.12.CI.3	Investigate new challenges and opportunities for personal growth, advancement, and

transition (e.g., 2.1.12.PGD.1).

TECH.9.4.12.IML.2

Evaluate digital sources for timeliness, accuracy, perspective, credibility of the source, and relevance of information, in media, data, or other resources (e.g., NJLSA.W8, Social Studies Practice: Gathering and Evaluating Sources).

Applied Technology Standards

12.9.3.12.TD-LOG.1	Develop solutions to provide and manage logistics services for the company and customers.
12.9.3.12.TD-LOG.2	Analyze and improve performance of logistics systems to provide logistics planning and management services.
12.9.3.MN.6	Demonstrate workplace knowledge and skills common to manufacturing.
12.9.3.MN-LOG.4	Manage inventory using logistics and control processes and procedures.
12.9.3.MN-PPD.1	Produce quality products that meet manufacturing standards and exceed customer satisfaction.
12.9.3.TD-LOG	Logistics Planning & Management Services
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP5	Consider the environmental, social and economic impacts of decisions.
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CRP.K-12.CRP11	Use technology to enhance productivity.
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Transfer Goals and Career Ready Practices

Transfer Goals

Students will gain an understanding of logistics and supply chain management which will help them understand how products they use and purchase make their way from the manufacturer to the end user.

Students will gain an understanding of the wide range of jobs available in the logistics and supply chain management field.

Students will gain 21st Century skills and related experiences which will benefit them in this career cluster in the future

Concepts

Essential Questions

How will you create a training document to ensure the safe loading of cargo aircraft?

What helps determine if an aircraft is safely loaded?

Which stakeholders are affected by aircraft cargo loading methods?

What additional information do we need about aircraft cargo loading methods?

Which variables directly affect the efficiency of an aircraft cargo freight loading procedure?

Which topics and organization of our aircraft cargo freight loading procedure might have the greatest potential for efficiency and ease of use?

How does our proposed procedure for aircraft cargo freight loading methods meet the needs of various stakeholders?

Which variables have the greatest impact on the success of our aircraft cargo freight loading procedure?

How can we improve our aircraft cargo freight loading procedure plan to meet the needs of the various stakeholders?

How will we train our cargo loading personnel on the final aircraft cargo freight loading procedure?

Understandings

Students will understand the format and calculations associated with planning for the safe and proper loading of a transport aircraft.

Critical Knowledge and Skills

Knowledge

Students will know:

- how to calculate proper load weight
- how to distribute freight on an aircraft to ensure safety
- how to convey concepts to the intended audience

Skills

Students will be able to:

- Explain concepts of cargo loading
- Calculate cargo weight to determine legal allowances
- Understand center of gravity and weight and balance
- Apply information about cargo loading to a real-life scenario

Assessment and Resources

School Formative Assessment Plan (Other Evidence)

- Professional Notebook - summarizing notes and articles
- Classwork activities - project management plans, optimization matrix, SWOT Analysis worksheets

School Summative Assessment Plan

- Formal Presentation of Completed Training Manual Project to stakeholders
- End of Project Assessment - test

Primary Resources

Fundamentals of Supply Chain Management: A Practitioner's Perspective by William McLaury and Eugene Spiegle

PowerPoint Presentation

Supplementary Resources

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Technology Integration

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2	7-10	Prepare Math lesson if included, Review Essential Vocabulary Definitions	Discussion as needed
			Find definitions for Essential Vocabulary
3-4	11-23	Monitor student progress	Complete Math lesson when included
			Conduct authentic research relevant to topic
		Invite authentic audience and schedule presentations	Share research findings with team members
5	24		Develop a solution
			Present solution to an authentic audience
6	25-28	Monitor student progress	Revise solution and create Final Deliverable
	29	Print End-of-Project Assessment	Take End-of-Project Assessment
	30		Participate in Roundtable Discussion

Project 2.10 - COVID Supply Chain Issues Mitigation

Content Area: **Applied Tech**
Course(s):
Time Period: **Marking Period 3**
Length: **3 weeks**
Status: **Not Published**

Section Title

12.9.3.12.TD.1	Describe the nature and scope of the Transportation, Distribution & Logistics Career Cluster and the role of transportation, distribution and logistics in society and the economy.
12.9.3.12.TD.2	Describe the application and use of new and emerging advanced techniques to provide solutions for transportation, distribution and logistics problems.
12.9.3.12.TD.3	Describe the key operational activities required of successful transportation, distribution and logistics facilities.
12.9.3.12.TD.4	Identify governmental policies and procedures for transportation, distribution and logistics facilities.
12.9.3.12.TD.5	Describe transportation, distribution and logistics employee rights and responsibilities and employers' obligations concerning occupational safety and health.
12.9.3.12.TD.6	Describe career opportunities and means to achieve those opportunities in each of the Transportation, Distribution & Logistics Career Pathways.
12.9.3.12.TD-HSE.1	Describe the health, safety and environmental rules and regulations in transportation, distribution and logistics workplaces.
12.9.3.12.TD-LOG.1	Develop solutions to provide and manage logistics services for the company and customers.
12.9.3.12.TD-LOG.2	Analyze and improve performance of logistics systems to provide logistics planning and management services.
12.9.3.12.TD-OPS.1	Develop and evaluate transportation plans to move people and/or goods to meet customer requirements.
12.9.3.12.TD-OPS.2	Analyze performance of transportation operations in order to improve quality and service levels and increase efficiency.
12.9.3.12.TD-OPS.3	Comply with policies, laws and regulations in order to maintain safety, security and health and mitigate the economic and environmental risk of transportation operations.
12.9.3.12.TD-SYS.1	Develop plans to maintain and/or improve the transportation infrastructure.
12.9.3.12.TD-SYS.2	Assess, plan and manage the implementation of transportation services.
12.9.3.12.TD-SYS.3	Describe ways to improve the system utilization, flow, safety and environmental performance of transportation systems.
12.9.3.12.TD-WAR.1	Demonstrate efficient and effective warehouse and distribution center operations.
12.9.3.12.TD-WAR.2	Describe ways to improve the performance of warehouse and distribution operations.
12.9.3.12.TD-WAR.3	Analyze compliance with company policies and government laws and regulations in warehouse and distribution operations.
WRK.9.2.12.CAP.1	Analyze unemployment rates for workers with different levels of education and how the economic, social, and political conditions of a time period are affected by a recession.
WRK.9.2.12.CAP.2	Develop college and career readiness skills by participating in opportunities such as structured learning experiences, apprenticeships, and dual enrollment programs.
TECH.9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g.,

1.1.12prof.CR3a).

TECH.9.4.12.IML.1

Compare search browsers and recognize features that allow for filtering of information.

TECH.9.4.12.IML.2

Evaluate digital sources for timeliness, accuracy, perspective, credibility of the source, and relevance of information, in media, data, or other resources (e.g., NJLSA.W8, Social Studies Practice: Gathering and Evaluating Sources).