

Opportunity Inc.

VisPort Curriculum Project

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These Curriculum materials will enhance Port logistics and sustainability understanding for high school students 16 years old and older.

Background:

Nationwide, more than 10 million people work in the field which encompasses jobs in transportation infrastructure planning; development and management; customer sales and service; transportation/mobile equipment design, development and operation; and material moving and handling among numerous other related careers.

Transportation, Distribution and Logistics involve the following - Planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

Current Needs:

1. Industry Visibility and Image: Increasing awareness and understanding of the importance of the Port industry to the Virginian economy.
2. Career Awareness: Increasing awareness among youth of the wide variety of STEM related career opportunities and how to prepare for these careers.
3. An understanding of the sustainability issues affecting the Port industry.
4. Workplace Skills Preparation: Improving the basic workplace skills of youth including academic skills, soft skills, and employability skills.

After successful completion of this program students will be able to:

- Work independently and as a member of a design team
- Identify port pollution control measures
- Understand and identify Green Supply Practices (GSP)
- Design/model a transportation, distribution, or warehousing operation in a port facility

- Develop leadership, responsibility, social skills, collaboration skills, and cultural awareness
- Manipulate and manage data, including the use of spreadsheets and applications of mathematical principles

Module constructs:

- 1. Port Logistics, Green Ships, Port Pollution and Containerization**
- 2. Career Information**
- 3. 21st Century skill development**

These modules are designed as problem-based learning scenarios or projects that apply and integrate technology education, science and mathematics knowledge and skills in addressing real-world problems in the transportation and logistics industry

Major Units Plans:

1. Port Pollution
 - a. Air Pollution
 - b. Water Pollution
 - c. Noise Pollution
 - d. Storm water Management
 - e. Careers
2. Green Ships
 - a. Reduce use of Bunker Fuel
 - b. Design Solutions
 - c. Tugs and Burges
 - d. Careers
3. Port Logistics
 - a. Port Movement Equipment
 - b. Port Automation – APM Terminal
 - c. Container Terminals
 - d. Bulk Cargo
 - e. Intermodal Freight Transport
 - f. Road Transport
 - g. Rail Transport
 - h. Careers
4. Containerization
 - a. Container shipping
 - b. Modular standards
 - c. Container Innovation
 - d. Supply Chain Management

- e. Warehousing and Distribution
- f. Careers

Partial List of Resources:

Port Operations Video – <http://vmasc-ws01.vmasc.odu.edu/~sevaport/>

Public-private partnerships touted as answer to logistics labor woes -
http://www.dvelocity.com/print/article/20091116building_a_logistics_savvy_workforce/

Thoughts on Developing the Future Logistics Workforce -
<http://blogs.dvelocity.com/consumergoods/2010/01/thoughts-on-developing-the-future-logistics-workforce.html>

Illinois Workforce Investment Board Transportation and Logistics Task Force Report: Findings and Recommendations - http://www.commerce.state.il.us/NR/rdonlyres/57E1C9BA-1E83-4EA3-BCB7-3DDDE0DC40D3/0/Trans_Logistaics_FINAL_REPORT_DECEMBER_14.pdf

Craney Island Newsletter - <http://www.craneyisland.info/PDF/e-newselettermarch2009.pdf>

Port of Los Angeles virtual tour -
http://www.laporthistory.org/level4/Warehouse1/warehouse_product.html

Green Ships

Ballast Water Treatment - <http://massbay.mit.edu/resources/pdf/ballast-treat.pdf>

Port Logistics

Trucking news: Cass Freight Index - http://www.logisticsmgmt.com/article/455456-Trucking_news_Cass_Freight_Index_shows_sequential_and_annual_growth_in_March.php

Port Automation

The Journal of Commerce -
http://www.apmterminals.com/uploadedFiles/corporate/Media_Center/070917%20Clean%20Slate.pdf

Schools and Training

Baltimore Ports Training – <http://port.thinkport.org>

VMASC Modeling and Simulation Curriculum and Units of Instruction –
http://www.mikesovay.com/msc/MS_Curriculum.html

Transportation education and training solution
<http://onlinepubs.trb.org/Onlinepubs/trnews/trnews257.pdf>

McHenry Community College Transportation, Warehousing and Logistics studies -
<http://www.mchenry.edu/twl/index.asp>

Transportation, Distribution and Logistics Degree College outline -
http://daley.ccc.edu/academic/cp_manf_courses.aspx