

GOVERNOR'S STEM ADVISORY COUNCIL



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**Jason Franzenburg**

Technology Education, Project Lead The Way

Davenport West High School

[franzenburgj@mail.davenport.k12.ia.us](mailto:franzenburgj@mail.davenport.k12.ia.us)

2015 Award Recipient

Southeast Region

## Partnership Project Outline Examples

Innovation Zone – 21<sup>st</sup> Century Classroom – 2011-12

Local architect comes in to Civil Engineering and Architecture class to mentor students.



ARCHITECTS & INTERIOR DESIGNERS, P C

### DAVENPORT COMMUNITY SCHOOL DISTRICT WEST HIGH SCHOOL – PROJECT LEAD THE WAY

February 18, 2011

#### PROJECT SCHEDULE

Class to verify existing dimensions/conditions	Friday, Feb. 18, 2011
Jason Franzenburg to provide design concepts Developed by the class	Tuesday, March 8, 2011
End of Third Quarter/Begin Fourth Quarter	Wednesday, March 9/Thursday, March 10
Class #1 – Program/Budget/Schedule	Tuesday, March 15, 2011*
Class #2 – Schematic Design	Tuesday, March 22, 2011*
Spring Break	Monday, March 28 to Friday, April 1
Board Meeting – Committee of the Whole	Monday, April 4, 2011
Class #3 – Design Development	Tuesday, April 5, 2011*
Board Meeting – Public Hearing	Monday, April 11, 2011
Class #4 – Construction Documents	Tuesday, April 12, 2011*
Out For Bids	Tuesday, April 19, 2011
Pre-Bid Meeting	Thursday, April 21, 2011*
Bid Opening	Thursday, May 5, 2011*
Board Approval of Bids	Monday, May 16, 2011
Pre-Construction Meeting	Wednesday, May 25, 2011*
Last Day of School	Thursday, May 26, 2011
Clean Out Classrooms	Friday, May 27 to Tuesday, June 30
Begin Construction	Wednesday, June 1, 2011
Substantial Completion (8 Weeks)	Friday, July 29, 2011
School Starts/Complete Construction	Friday, August 5, 2011

\*Classroom Participation with Architect at West High School



**Paula Webinger – Educational Specialist**  
[evorac@WASTECOM.COM](mailto:evorac@WASTECOM.COM)

**Kathy Morris – Director**  
[kmorris@WASTECOM.COM](mailto:kmorris@WASTECOM.COM)

# DAVENPORT WEST HIGH SCHOOL

*Home of the Falcons*

3505 West Locust Street | Davenport, Iowa | 52804  
 School - (563) 386-5500 | Fax - (563) 386-5508  
<http://www.davenportschools.org/west/>



**Industrial Technology  
Department Head - Jason Franzenburg**  
[franzenburgj@mail.davenport.k12.ia.us.edu](mailto:franzenburgj@mail.davenport.k12.ia.us.edu)

**Principal - Nancy Jacobson**  
[jacobsonn@mail.davenport.k12.ia.us.edu](mailto:jacobsonn@mail.davenport.k12.ia.us.edu)

## Engineering Design and Development Re-Inventing the Wheel

**EDD Orientation/Class Overview/Expectations** **December 8<sup>th</sup>**

**First Day of Class** **January 3<sup>rd</sup>**  
 Synopsis – Orientation Review/ Overview/Expectations/Product Lifecycle Management (PLM)

Background Reading - Assign reading for January 5th (CtoC 1-23 Relevant Topics – The Technical Nutrient, industrial revolution, Moore’s Law, and supply and demand)

**Guest Speaker/ Kathy Morris** **January 5<sup>th</sup>**

**Landfill History/Site Selection / Video / EMS (Time Permitting)**  
 Synopsis – Students will gain an understanding of local landfill history and site selection.

Background - Assign reading for January 19th (CtoC 23-66 Relevant Topics – Raw materials, cradle to grave, universal design, brute force, ecosystems, crude products, population, and the 4 R’s)

**\* Electric Waste Recycling** **January 10<sup>th</sup>**

**Location – Tremont Street**  
 Synopsis – Students will gain an understanding of electronic waste and recycling. While visiting our local E-Recycling facility students will take apart electronic product. Students will see how difficult it is to recycle electronic waste related to engineering design.

Continued background - Assigned reading for January 19th (CtoC 23-66 Relevant Topics – Raw materials, cradle to grave, universal design, brute force, ecosystems, crude products, population, and the 4 R’s)

**Brandt Construction** **January 13<sup>th</sup>**

Synopsis – An engineer from Brandt Construction will visit our class and talk about the process used to recycle asphalt shingles.

Continued background - Assigned reading for January 19th (CtoC 23-66 Relevant Topics – Raw materials, cradle to grave, universal design, brute force, ecosystems, crude products, population, and the 4 R’s)

**\* Waste Sort** **January 19<sup>th</sup>**

**Location - Scott County Landfill**  
 Synopsis – Students will sort waste according to product identification into bins and weight that material. This will allow students to see the impact that waste has on our society.

Background - Assign reading for January 24th (CtoC 66-92 Relevant Topics – Materials/product examples; carpet, roof top, cherry tree, etc..., waste, and The New Design Assignment)



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## Materials Data Analysis 9 Agencies Data

January 20<sup>th</sup>

Synopsis – Students will analyze data provided by the Scott County Waste Commission (SCWC), (2011 IOWA STATEWIDE WASTE CHARACTERIZATION STUDY). While studying the information students will select a specific material to research then a specific product to research.  
 Continued Background - Assigned reading for January 24th (CtoC 66-92 Relevant Topics – Materials/product examples; carpet, roof top, cherry tree, etc..., waste, and The New Design Assignment)

## Des Moines Engineering Firm

January 24<sup>th</sup>

Synopsis – The engineering firm will discuss techniques for waste disposal and inform students of different testing procedures.  
 Background - Assign reading for February 8th (CtoC 92-137 Relevant Topics – Cradle to Cradle, using local materials, and energy examples)

## \* ITED Exam Day – Facilities Field Trip

February 8<sup>th</sup>

Location - Graystone / Police Station Field Trip  
 Julie Plummer will be our guide  
 Synopsis – Students tour two facilities looking at the building efficiency of the police station and observing the recycling procedures at Graystone.  
 Background - Assign reading for February 24th (CtoC 137-186 Relevant Topics – Product examples; soap, China Styrofoam, sectors, putting eco-effectiveness into practice)

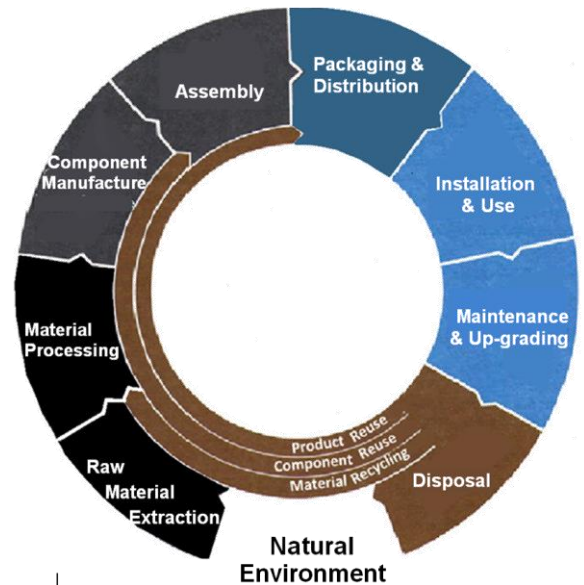
## Company Alternatives - Rough Draft Due

February 24<sup>th</sup>

Synopsis – Students will turn in company proposals to use different material for current products.  
 Background – Specific research conducted January 27th –February 23rd relevant to group material selection, the manufacturing/engineering processes and alternative materials.

Special Notes:  
 Class discussions will occur throughout the project

(\* Travel Required / Field Trips / Bus Needed)



Inspired by book, *Cradle to Cradle: Remaking the Way We Make Things*