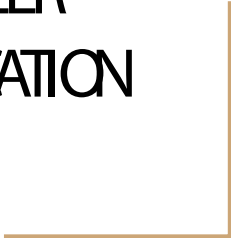




21st CENTURY  
EDUCATIONAL  
REDESIGN  
A STUDY IN CAREER  
TECHNOLOGY EDUCATION





What does it mean to design for 21st  
Century Education?



Collaborate

Create

Communicate

21st Century Education is more than acquiring skills and knowledge. It's about providing a dynamic environment that fosters exploration, creativity, and innovation.

21st Century Education will:

- Embrace diverse learning styles
- Boost student motivation
- Enhance the desire to learn

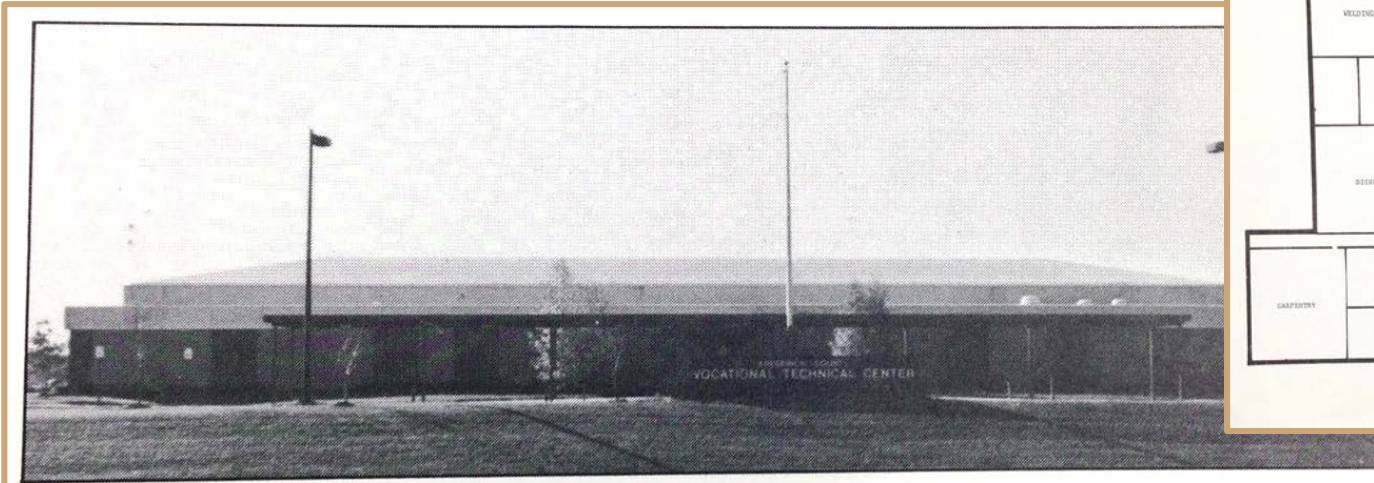
Students will become:

- Collaborative communicators
- Resourceful learners
- Adaptive problem solvers

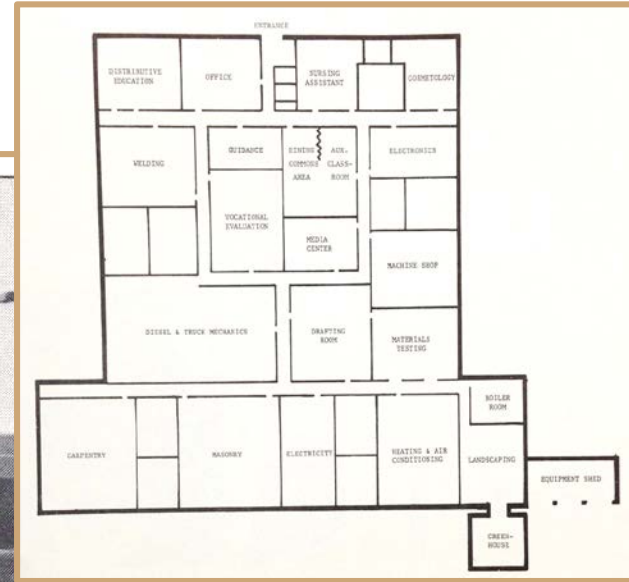
Many school buildings across the country are functioning just as they did in the 1970's. The quality of our learning environments has not kept pace with the evolution of education.

We offer this design in an effort to help raise the awareness of, and address, that disconnect.

The Frederick County Vocational Technical Center (now CTC) opened in 1976. At 70,000 sq ft, it was a model space to provide education in career technology.



*Frederick County Vo-Tech Center*







# Our Solution



# Use Phased Construction on the Existing Site to Create a 3-Building Campus Featuring:

## The School of Design

- ❖ Architecture
- ❖ Engineering
- ❖ Culinary Arts
- ❖ Web Design
- ❖ TV/Multimedia

## The School of Service

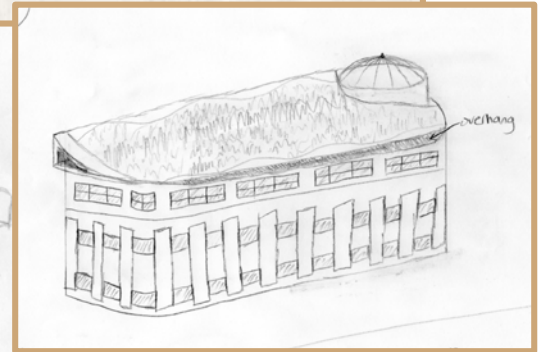
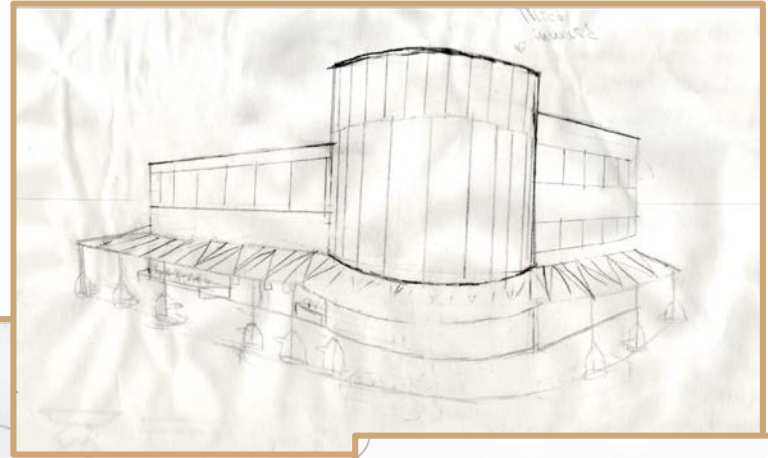
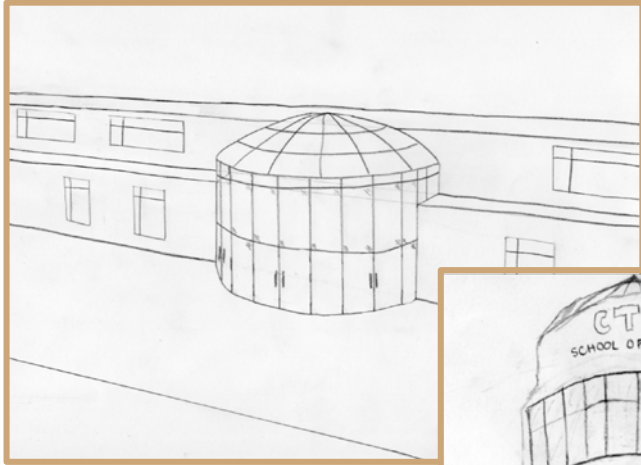
- ❖ Nursing
- ❖ Criminal Justice
- ❖ Cosmetology
- ❖ Teaching Academy
- ❖ Business Academy

## The School of Fabrication

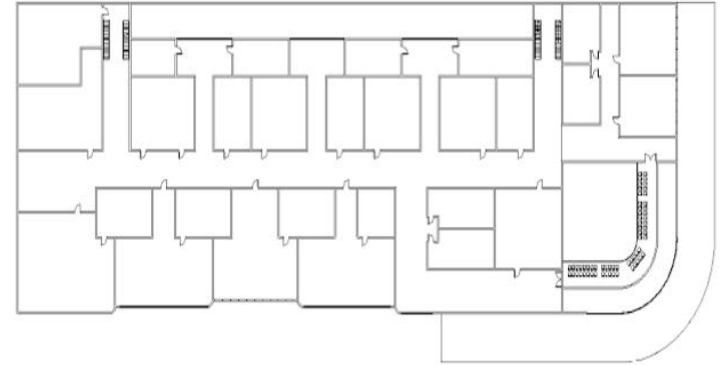
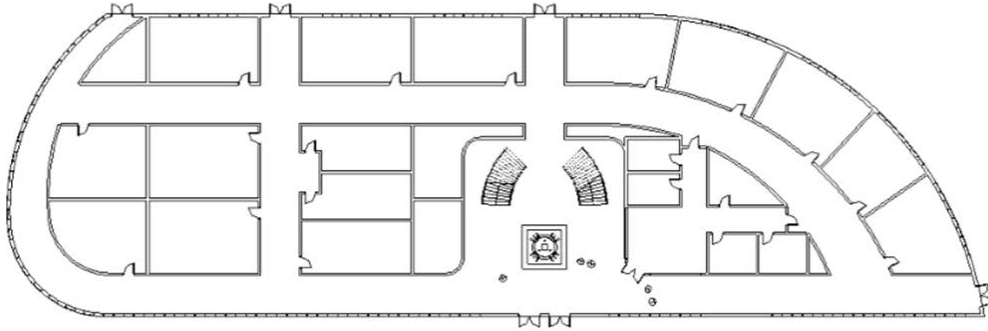
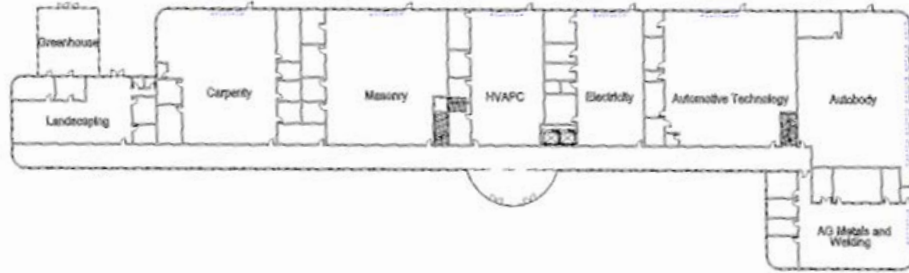
- ❖ Welding
- ❖ Electricity
- ❖ Carpentry
- ❖ Autobody
- ❖ Masonry



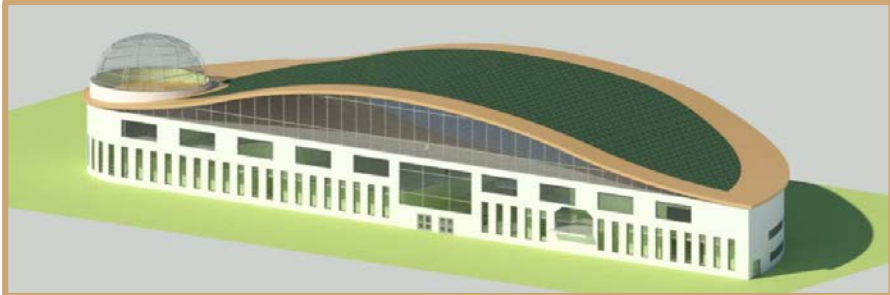
# Conceptual Design- Sketches:



# Preliminary Design- Floor Plans:



# Detailed Design- 3D Building Renderings:



The School of Design

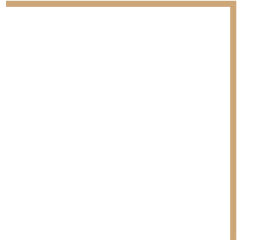
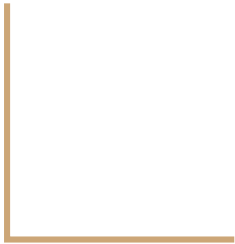


The School of Fabrication



The School of Service

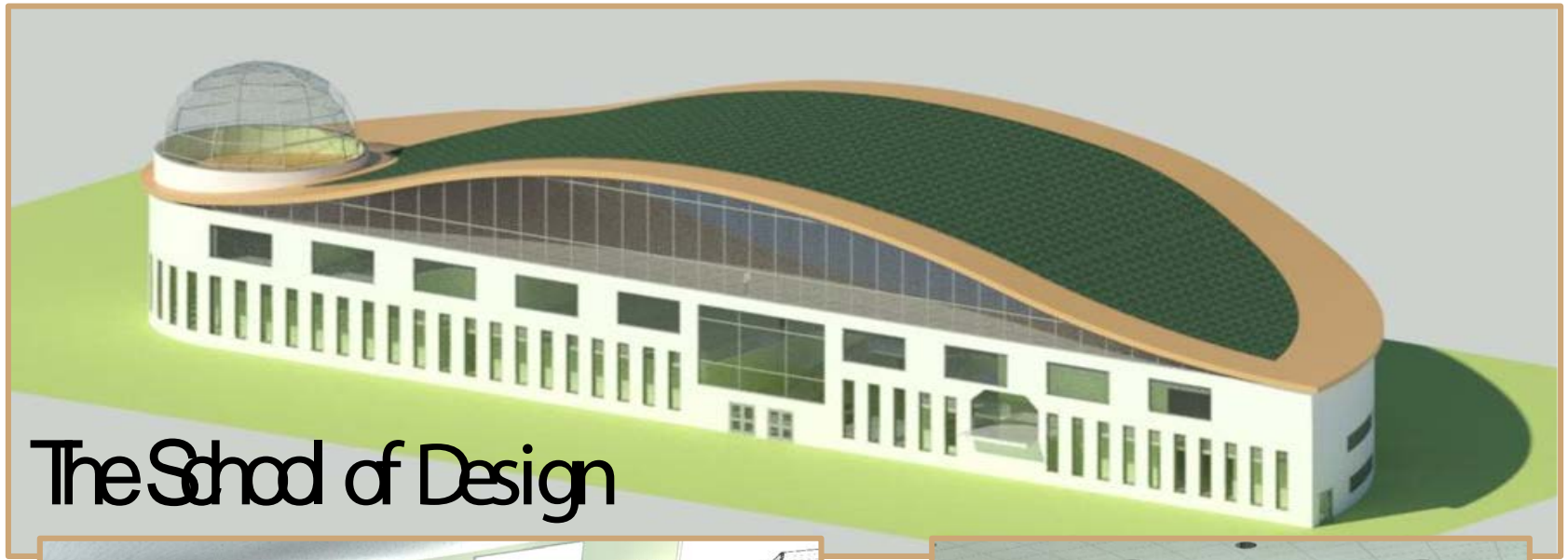
# The Final Design





# The School of Service





# The School of Design

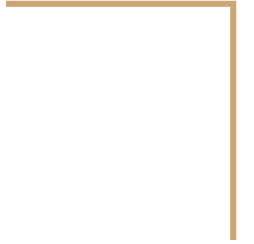




# The School of Fabrication



# The Campus





# Site Layout of the Campus Buildings:

The School of Fabrication

The School of Service

The School of Design



# Site Layout - 3D Campus Rendering





# Design Project Features



# LEED

LEED v4 for BD+C: Schools Project Checklist				Project Name:	21st Century Educational Redesign
				Date:	May 24th, 2016
Y	T	N	Score		
Y			1	Integrative Process	
<b>13</b>	<b>0</b>	<b>2</b>	<b>15</b>	<b>13</b>	<b>0</b>
<b>Location and Transportation</b>				<b>Materials and Resources</b>	
Y			15	Y	
			1	Y	
2			2	5	
5			5	2	
4			4	2	
1			1	2	
1			1	2	
		1	1		
Y			1		
<b>13</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>14</b>	<b>0</b>
<b>Sustainable Sites</b>				<b>Indoor Environmental Quality</b>	
Y			12	Y	
Y			Required	Y	
Y			Required	Y	
1			1	2	
2			2	3	
1			1	1	
3			3	2	
2			2		1
2			1	2	
1			1	2	
1			1	1	
Y			1		1
<b>1</b>	<b>0</b>	<b>11</b>	<b>12</b>	<b>5</b>	<b>0</b>
<b>Water Efficiency</b>				<b>Innovation</b>	
Y			Required	5	
Y			Required	5	
Y			Required	1	
		2	2		
		7	7		
		2	2		
1			1		
<b>26</b>	<b>0</b>	<b>5</b>	<b>31</b>	<b>4</b>	<b>0</b>
<b>Energy and Atmosphere</b>				<b>Regional Priority</b>	
Y			Required	1	
Y			Required	1	
Y			Required	1	
Y			Required	1	
8			8		
10			10		
		1	1		
		2	2		
3			3		
1			1		
		2	2		
<b>89</b>	<b>0</b>	<b>21</b>	<b>TOTALS</b>	<b>Possible Points: 110</b>	

Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110

Our LEED Score: 89



Our goal to be environmentally friendly pushed us to learn more about green building. With that as a focus, our design can achieve a LEED Platinum rating!

# Outdoor Classroom Areas:



Students have a dedicated, open air space to study and relax. Studies have shown that students who learn outside have decreased stress levels and increased motivation to learn.

# Learning Stairs:



Photos: Paul Warchol Photography from Bohlin Gywinski Jackson (<http://bj.com/projects/g-wayne-dough-learning-commons/>)

# Skywalks:

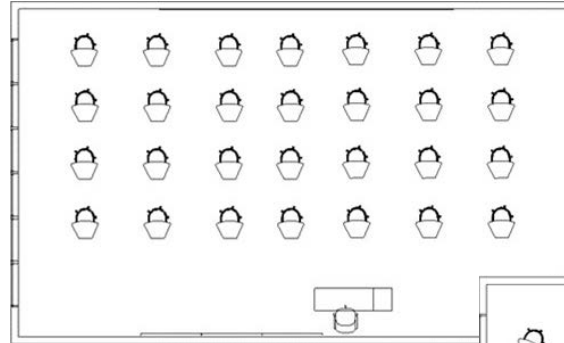


The skywalks enhance security and improve accessibility. By protecting and controlling pedestrian traffic, the transition between classes is safer and more efficient.

# Flexible Learning Environments:



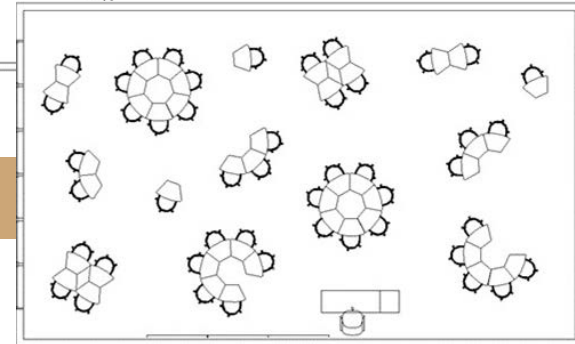
With mobile desks and chairs, students and teachers can easily reconfigure the classroom for a variety of lessons and activities.



Option A - Traditional



Option B - 21<sup>st</sup> Century







We would like to thank all of the education and industry professionals who visited our program for giving us a chance to talk about our 21st Century Educational Redesign Project.

# A Special Thanks to these Education/ Industry Leaders for Their Participation and Guidance during our Design Review Process



Sarah  
Woodhead  
Director of Capital Programs,  
Prince George's County Public  
Schools



Derk  
Jeffrey  
Senior Principal,  
Stantec



Paul  
Bradshaw  
Vice Principal,  
Grimm+Parker  
Architects



Melissa  
Wilfong  
Principal,  
Grimm+Parker  
Architects



Jillian  
Storms  
School Facilities Architect,  
Maryland State  
Department of Education



**CREATING THOUGHTFUL DESIGNS THAT SUPPORT THE DELIVERY OF 21<sup>st</sup> CENTURY EDUCATION IS IN OUR HANDS**