



CENIC '07

M A K I N G W A V E S

March 12-14, 2007 • San Diego La Jolla Marriott Hotel • La Jolla, CA

High Definition Videoconferencing As A Pedagogical Tool In Distance Learning

Possible Uses And Best Practices

- Naval Postgraduate School (NPS)
 - Tele-Education (VTE) since 1994.
 - 40 courses per quarter
 - 7 VTE classrooms/studios
 - 650+ students
 - 50+ distant sites
 - Technical and Non-technical programs
 - Masters and PhD level.
 - Standard Definition connections up to 384 kbps

- **Technical Improvements of HD VTC**
 - Image clarity & detail
 - Smoother motion
 - Better color rendition
 - Widescreen format
 - Improved audio

- Tangible Benefits in Learning Environment
 - Clarity and Comprehension
 - If you can't read the visual aid, it's not an aid
 - Faculty will have more choices for visual aids
 - Fewer constraints on content, fonts, colors
 - Practical to use web content
 - Reduce or eliminate “advance copies” of visuals
 - Improved “face-to-face” experience means better “social connection.”
 - Easier to read facial expressions, reactions, body language.
 - Widescreen format better for groups

The Widescreen **ADVANTAGE:**

- See more of your students
- More room for information (visual aids)

The Widescreen **CHALLENGE:**

- Show off more of your classroom
 - Even the ugly parts....
- Bigger, more expensive displays
 - Do you have money and space?

4x3 Tunnel Vision

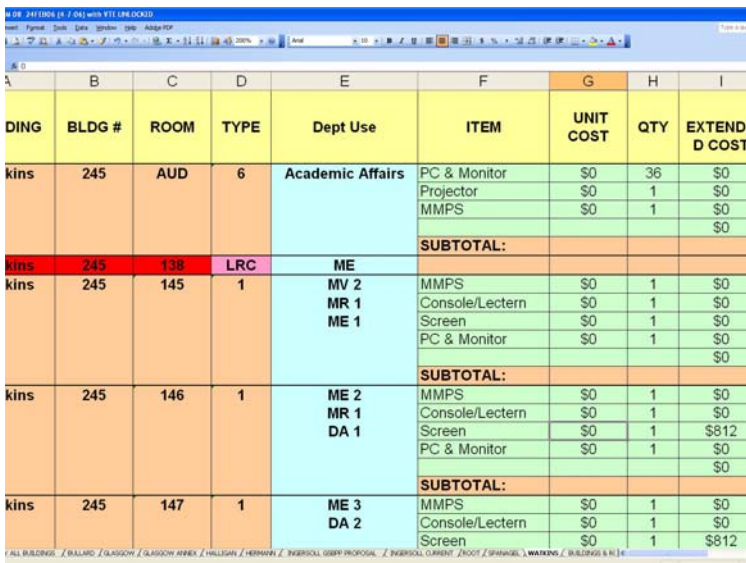


16 x 9 Same height, better view

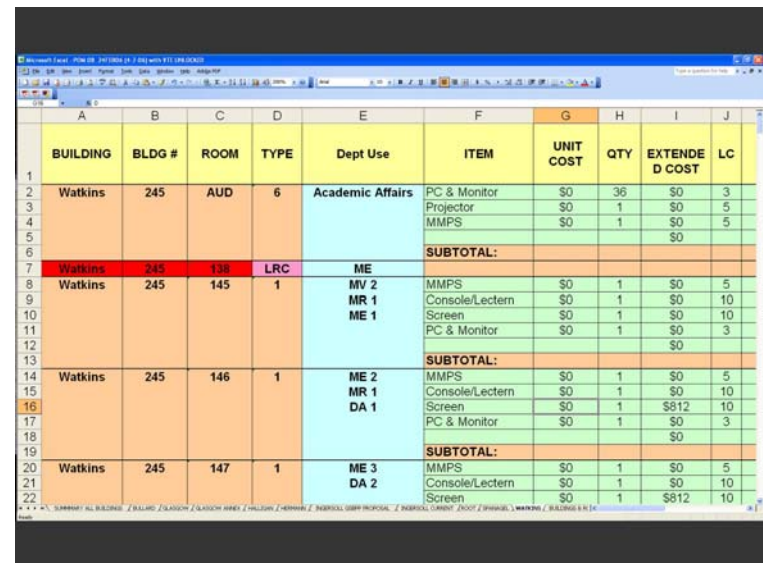


Replace my monitors?

Widescreen images must “Shrink to Fit” your standard displays



DING	BLDG #	ROOM	TYPE	Dept Use	ITEM	UNIT COST	QTY	EXTENDED COST
kins	245	AUD	6	Academic Affairs	PC & Monitor	\$0	36	\$0
					Projector	\$0	1	\$0
					MMPS	\$0	1	\$0
					SUBTOTAL:			\$0
kins	245	138	LRC	ME				
kins	245	145	1	ME	MV 2	\$0	1	\$0
					MR 1	\$0	1	\$0
					ME 1	\$0	1	\$0
					Screen	\$0	1	\$0
kins	245	146	1	ME 2	MMPS	\$0	1	\$0
kins	245	147	1	ME 3	MR 1	\$0	1	\$0
					DA 1	\$0	1	\$812
					PC & Monitor	\$0	1	\$0
					SUBTOTAL:			\$0
kins	245	147	1	ME 3	DA 2	\$0	1	\$0
					MMPS	\$0	1	\$0
					Console/Lectern	\$0	1	\$0
					Screen	\$0	1	\$812



	BUILDING	BLDG #	ROOM	TYPE	Dept Use	ITEM	UNIT COST	QTY	EXTENDED COST	LC
1	Watkins	245	AUD	6	Academic Affairs	PC & Monitor	\$0	36	\$0	3
2						Projector	\$0	1	\$0	5
3						MMPS	\$0	1	\$0	5
4						SUBTOTAL:			\$0	
5	kins	245	138	LRC	ME					
6	kins	245	145	1	ME	MMPS	\$0	1	\$0	5
7	kins	245	145	1	ME	MR 1	\$0	1	\$0	10
8	kins	245	145	1	ME	ME 1	\$0	1	\$0	10
9	kins	245	145	1	ME	Screen	\$0	1	\$0	10
10	kins	245	145	1	ME	PC & Monitor	\$0	1	\$0	3
11	kins	245	146	1	ME 2	MMPS	\$0	1	\$0	5
12	kins	245	146	1	ME 2	Console/Lectern	\$0	1	\$0	10
13	kins	245	146	1	ME 2	Screen	\$0	1	\$812	10
14	kins	245	146	1	ME 2	PC & Monitor	\$0	1	\$0	3
15	kins	245	146	1	ME 2	SUBTOTAL:			\$0	
16	kins	245	147	1	ME 3	MMPS	\$0	1	\$0	5
17	kins	245	147	1	ME 3	DA 1	\$0	1	\$0	10
18	kins	245	147	1	ME 3	DA 2	\$0	1	\$0	10
19	kins	245	147	1	ME 3	Screen	\$0	1	\$812	10
20	kins	245	147	1	ME 3	SUBTOTAL:			\$0	
21	kins	245	147	1	ME 3	MMPS	\$0	1	\$0	5
22	kins	245	147	1	ME 3	DA 1	\$0	1	\$0	10
23	kins	245	147	1	ME 3	DA 2	\$0	1	\$0	10
24	kins	245	147	1	ME 3	Screen	\$0	1	\$812	10

- Standard 4x3 Display
– showing 4x3 Image

- Same 4x3 display
– showing 16x9 Image

- **Challenges**

- **Cost**

- HD Cameras (\$4.5k and up)
 - HD Displays
 - Highly detailed content may require larger video displays
 - » Faculty will push the content envelope
 - Audio upgrades
 - Great video may call attention to mediocre audio
 - Better speakers, more discriminating microphone solutions

- **Room Design**

- Improved lighting
 - Room aesthetics
 - Widescreen format = wider peripheral views
 - Are those areas of the classroom presentable and/or useable?

- Challenges

- Room Design

- Improved lighting

- Acoustics

- Room aesthetics

- Visual clarity applies to the good, bad & ugly

- Widescreen format = wider peripheral views

- Are those areas of the classroom presentable and/or useable

- **Technical**
 - Minimum 1MB required, more is better
 - Quality of Service
 - Public internet or Private WAN?
- **Practical**
 - Is something detracting from the delivery of the content?
 - Makeup?
 - Wardrobe?
 - Poor fit
 - Stains