

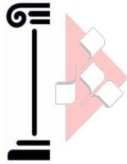


- PROCESS
- IMPORTANCE
- DEFINITIONS
- INVENTORIES
- MANAGEMENT
- PROGRAM NEEDS
- ANALYSIS
- TRENDS



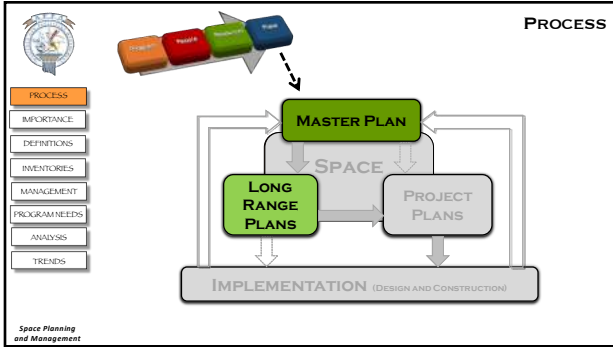
SPACE PLANNING AND MANAGEMENT

NASHVILLE, TN
SEPTEMBER 2019



JOE BILOTTA,
JBA 1 INCORPORATED
WWW.JBA1.COM
JOE@JBA1.COM

*Space Planning
and Management*



WHY IS IT IMPORTANT?

Space Planning and Management

- Largest Asset
- Provide Physical Environment
 - Program Needs
 - Capital Assessments
 - Research Reporting
- Develop Priorities
 - Capital
 - Maintenance
- Statewide Analysis
- **GOOD BUSINESS**

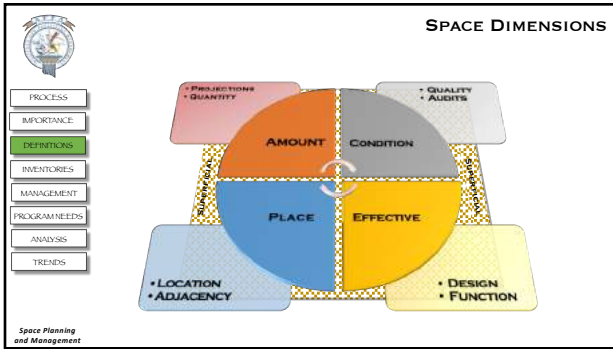
HERMAN / Jim Unger

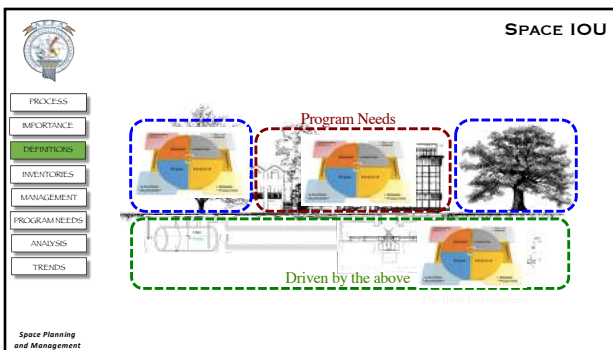
"Here, you want to be plant manager. Take care of that!"

SPACE USE NEEDED FOR.....

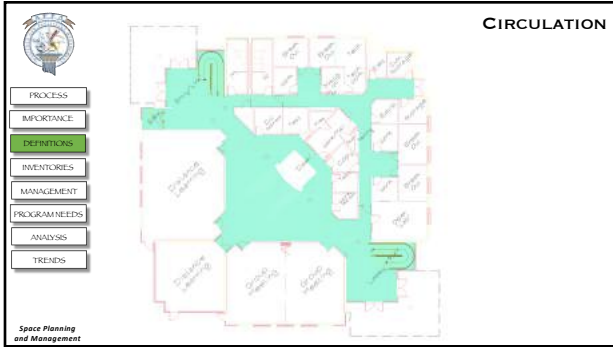
Space Planning and Management

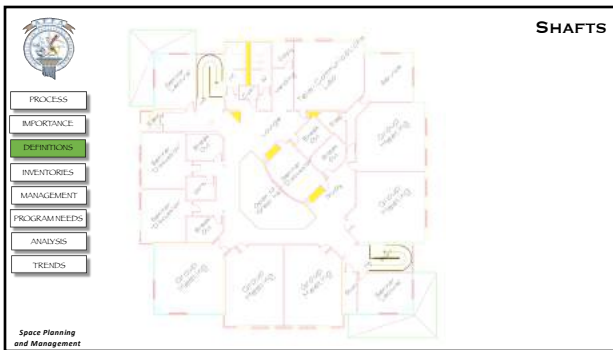
- Master Planning
- Long Range Planning
- Building Programming
- Accreditation Issues
- Budget/Funding Requests
- Maintenance/Repair and Replacement Issues
- Space Efficiency Studies
- Appropriate Space Allocations
- Understand Space Adjacencies
- Research Accountability
- Proper Space Use – Program Locations
- Operating Cost Allocations







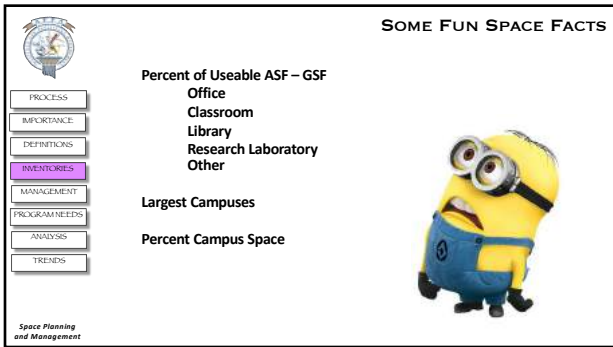













FICM



PROCESS

IMPORTANCE

DEFINITIONS

INVENTORIES

MANAGEMENT


PROGRAM NEEDS

ANALYSIS

TRENDS


**Post Secondary Education
Facilities Inventory and
Classifications Manual**

National Center for Education
Statistics, Revised and Reprinted
April 1997, NCEs (92-165r)
nces.ed.gov/ipeds/data/ipedsdatasys/ipeds_data_query.asp?table=92165.pdf



Space Planning and Management

MAJOR CLASSIFICATIONS



PROCESS

IMPORTANCE

DEFINITIONS

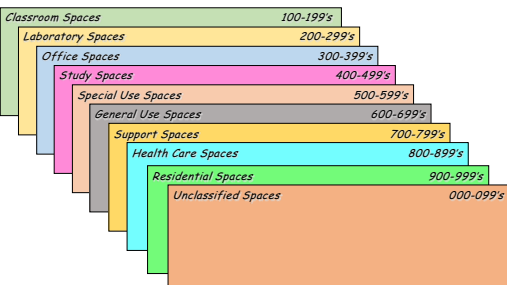
INVENTORIES

MANAGEMENT

PROGRAM NEEDS

ANALYSIS

TRENDS



Space Planning and Management

CLASSROOM SPACES



PROCESS

IMPORTANCE

DEFINITIONS

INVENTORIES

MANAGEMENT

PROGRAM NEEDS

ANALYSIS

TRENDS



110 Classroom

115 Classroom Service

Space Planning and Management



PROCESS
IMPORTANCE
DEFINITIONS
INVENTORIES
MANAGEMENT
PROGRAM NEEDS
ANALYSIS
TRENDS

LABORATORY SPACES

210	Class Laboratory
215	Class Laboratory Service
220	Open Laboratory
225	Open Laboratory Service
250	Research/Nonclass Laboratory
255	Research/Nonclass Laboratory Service





Space Planning and Management



PROCESS
IMPORTANCE
DEFINITIONS
INVENTORIES
MANAGEMENT
PROGRAM NEEDS
ANALYSIS
TRENDS

OFFICE SPACES

310	Office
315	Office Service
350	Conference Room
355	Conference Room Service






Space Planning and Management



PROCESS
IMPORTANCE
DEFINITIONS
INVENTORIES
MANAGEMENT
PROGRAM NEEDS
ANALYSIS
TRENDS


STUDY SPACES

410	Study Room
420	Stack
430	Open-Stack Study Room
440	Processing Room
455	Study Service











Space Planning and Management




- PROCESS
- IMPORTANCE
- DEFINITIONS
- INVENTORIES
- MANAGEMENT
- PROGRAM NEEDS
- ANALYSIS
- TRENDS

Space Planning and Management





SPECIAL USE SPACES

- 510 Armory
- 515 Armory Service
- 520 Athletic or Physical Education
- 523 Athletic Spectator Seating
- 525 Athletic or PE Education Service
- 530 Media Production
- 535 Media Production Service
- 540 Clinic
- 545 Clinic Service
- 550 Demonstration
- 555 Demonstration Service
- 560 Field Building
- 570 Animal Facilities
- 575 Animal Facilities Service
- 580 Greenhouse
- 585 Greenhouse Service
- 590 Other (All Purpose)



- PROCESS
- IMPORTANCE
- DEFINITIONS
- INVENTORIES
- MANAGEMENT
- PROGRAM NEEDS
- ANALYSIS
- TRENDS

Space Planning and Management




GENERAL USE SPACE

- 610 Assembly
- 615 Assembly Service
- 620 Exhibition
- 625 Exhibition Service
- 630 Food Facility
- 635 Food Facility Service
- 640 Day Care
- 645 Day Care Service
- 650 Lounge
- 655 Lounge Service
- 660 Merchandising
- 665 Merchandising Service
- 670 Recreation
- 675 Recreation Service
- 680 Meeting Room
- 685 Meeting Room Service



- PROCESS
- IMPORTANCE
- DEFINITIONS
- INVENTORIES
- MANAGEMENT
- PROGRAM NEEDS
- ANALYSIS
- TRENDS

Space Planning and Management

SUPPORT SPACES

- 710 Central Computer or Telecommunications
- 715 Central Computer or Telecommunications Service
- 720 Shop
- 725 Shop Service
- 730 Central Storage
- 735 Central Storage Service
- 740 Vehicle Storage
- 745 Vehicle Storage Service
- 750 Central Service
- 755 Central Service Support
- 760 Hazardous Materials Storage
- 770 Hazardous Waste Storage
- 775 Hazardous Waste Service

HEALTH SPACES

PROCESS

IMPORTANCE

DEFINITIONS

INVENTORIES

MANAGEMENT

PROGRAM NEEDS

ANALYSIS

TRENDS

810	Patient Bedroom
815	Patient Bedroom Service
820	Patient Bath
830	Nurse Station
835	Nurse Station Service
840	Surgery
845	Surgery Service
850	Treatment/Examination Clinic
855	Treatment/Examination Clinic Service
860	Diagnostic Service Laboratory
865	Diagnostic Service Laboratory Support
870	Central Supplies
880	Public Waiting
890	Staff On-Call Facility
895	Staff On-Call Facility Service

Space Planning and Management

RESIDENTIAL SPACES

PROCESS

IMPORTANCE

DEFINITIONS

INVENTORIES

MANAGEMENT

PROGRAM NEEDS

ANALYSIS

TRENDS

910	Sleep/Study Without Toilet or Bath
919	Toilet or Bath
920	Sleep/Study With Toilet or Bath
935	Sleep/Study Service
950	Apartment
955	Apartment Service
970	House

Space Planning and Management

NON-ASSIGNABLE AND UNCLASSIFIED SPACES

PROCESS

IMPORTANCE

DEFINITIONS

INVENTORIES

MANAGEMENT

PROGRAM NEEDS


ANALYSIS

TRENDS

000	Unclassified Facilities
050	Inactive Area
060	Alteration or Conversion Area
070	Unfinished Area
WWW	Circulation Area
W01	Bridge/Tunnel
W02	Elevator
W03	Escalator
W04	Loading Dock
W05	Lobby
W06	Public Corridor
W07	Stairway
XXX	Building Service Area
X01	Custodial Supply Closet
X02	Janitor Room
X03	Public Rest Room
X04	Trash Room
YYY	Mechanical Area
Y01	Central Utility Plant
Y02	Fuel Room
Y03	Shaft
Y04	Utility/Mechanical Space


Space Planning and Management

MANAGING THE INVENTORY




- PROCESS
- IMPORTANCE
- DEFINITIONS
- INVENTORIES
- MANAGEMENT**
- PROGRAM NEEDS
- ANALYSIS
- TRENDS

Correct Classifications/Consistency
 Unclassified Spaces
 Multipurpose or Multi Use
 Level of Public Access
 Unique Sub-codes
 Don't Confuse User with Use





Space Planning and Management

WAYS TO MANAGE SPACE




- PROCESS
- IMPORTANCE
- DEFINITIONS
- INVENTORIES
- MANAGEMENT**
- PROGRAM NEEDS
- ANALYSIS
- TRENDS

Team vs Office
 FM vs. Other
 Space Requests
 Perceptions Regarding Costs
 Evaluations
 Lease Back Programs

Space Planning and Management

USE OF GUIDELINES




- PROCESS
- IMPORTANCE
- DEFINITIONS
- INVENTORIES
- MANAGEMENT
- PROGRAM NEEDS**
- ANALYSIS
- TRENDS

- ❖ University Space Planning Guidelines by Bariether & Schilling
- ❖ WICHE Higher Education Facilities Planning and Management Manuals
- ❖ CEFPI Space Planning Guidelines for Institutions of Higher Education

- ❖ Association of Physical Plant Administrators
- ❖ Mandated Guidelines

❖ CREATE YOUR OWN



Space Planning and Management



PROCESS
IMPORTANCE
DEFINITIONS
INVENTORIES
MANAGEMENT
PROGRAM NEEDS
ANALYSIS
TRENDS

PROGRAM VS. SPACE

Classroom Buildings
Research Centers
Libraries
Residence Halls
Clinics
Day Care Centers
Bookstores








Space Planning and Management



PROCESS
IMPORTANCE
DEFINITIONS
INVENTORIES
MANAGEMENT
PROGRAM NEEDS
ANALYSIS
TRENDS

OUTDOOR SPACE



Space Planning and Management



PROCESS
IMPORTANCE
DEFINITIONS
INVENTORIES
MANAGEMENT
PROGRAM NEEDS
ANALYSIS
TRENDS

RE-EVALUATING PROGRAM NEEDS



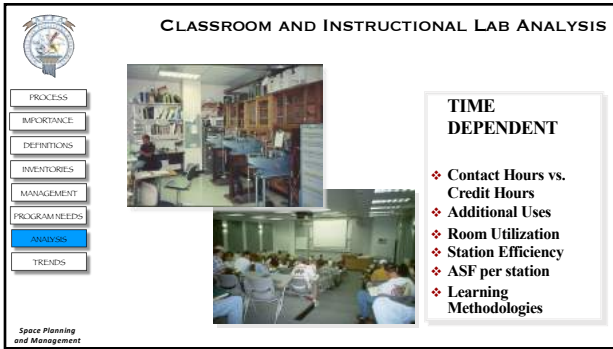
Writer and Semiotics Expert, Steve Johnson

Where do Good Ideas Come From?

http://www.ted.com/talks/steven_johnson_where_good_ideas_come_from.html

Space Planning and Management

CLASSROOM AND INSTRUCTIONAL LAB ANALYSIS



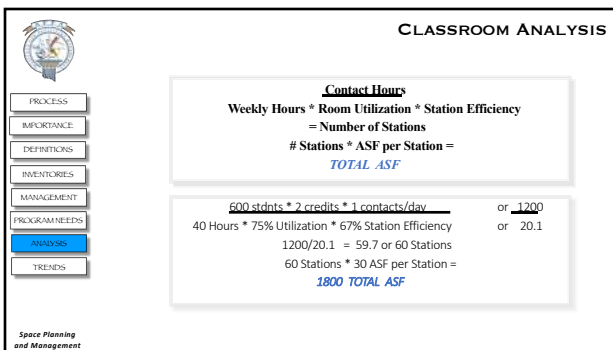
PROCESS
IMPORTANCE
DEFINITIONS
INVENTORIES
MANAGEMENT
PROGRAM NEEDS
ANALYSIS
TRENDS

Space Planning and Management

TIME DEPENDENT

- ❖ Contact Hours vs. Credit Hours
- ❖ Additional Uses
- ❖ Room Utilization
- ❖ Station Efficiency
- ❖ ASF per station
- ❖ Learning Methodologies

CLASSROOM ANALYSIS



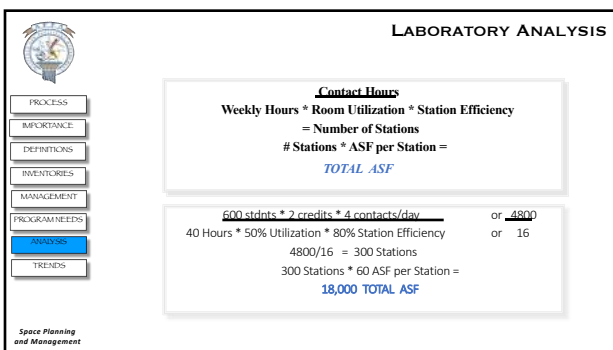
PROCESS
IMPORTANCE
DEFINITIONS
INVENTORIES
MANAGEMENT
PROGRAM NEEDS
ANALYSIS
TRENDS

Space Planning and Management

Contact Hours
Weekly Hours * Room Utilization * Station Efficiency
= Number of Stations
Stations * ASF per Station =
TOTAL ASF

$\frac{600 \text{ students} * 2 \text{ credits} * 1 \text{ contact/day}}{40 \text{ Hours} * 75\% \text{ Utilization} * 67\% \text{ Station Efficiency}}$ or $\frac{1200}{20.1}$
= 59.7 or 60 Stations
60 Stations * 30 ASF per Station =
1800 TOTAL ASF

LABORATORY ANALYSIS




PROCESS
IMPORTANCE
DEFINITIONS
INVENTORIES
MANAGEMENT
PROGRAM NEEDS
ANALYSIS
TRENDS

Space Planning and Management

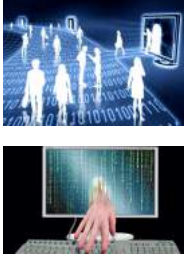
Contact Hours
Weekly Hours * Room Utilization * Station Efficiency
= Number of Stations
Stations * ASF per Station =
TOTAL ASF

$\frac{600 \text{ students} * 2 \text{ credits} * 4 \text{ contacts/day}}{40 \text{ Hours} * 50\% \text{ Utilization} * 80\% \text{ Station Efficiency}}$ or $\frac{4800}{16}$
= 300 Stations
300 Stations * 60 ASF per Station =
18,000 TOTAL ASF




SPACE MODELING

- PROCESS
- IMPORTANCE
- DEFINITIONS
- INVENTORIES
- MANAGEMENT
- PROGRAM NEEDS
- ANALYSIS
- TRENDS



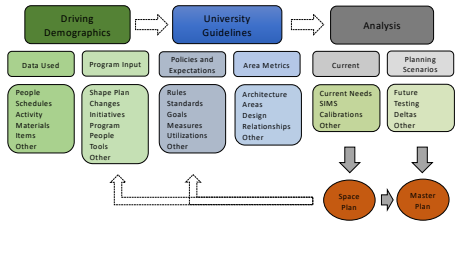
- ❖ Scenario Planning
- ❖ Testing by Administration
- ❖ Testing Operations
- ❖ Data Driven Analysis
- ❖ Can Adjust as Campus Changes
- ❖ Multiple Uses
- ❖ NO REPORTS !

Space Planning and Management



ANALYSIS APPROACH – UNIVERSITY OF IOWA

- PROCESS
- IMPORTANCE
- DEFINITIONS
- INVENTORIES
- MANAGEMENT
- PROGRAM NEEDS
- ANALYSIS
- TRENDS



Space Planning and Management



INCREASED USE

- PROCESS
- IMPORTANCE
- DEFINITIONS
- INVENTORIES
- MANAGEMENT
- PROGRAM NEEDS
- ANALYSIS
- TRENDS



Space Planning and Management

TEACHING AND LEARNING PEDAGOGIES



- PROCESS
- IMPORTANCE
- DEFINITIONS
- INVENTORIES
- MANAGEMENT
- PROGRAM NEEDS
- ANALYSIS
- TRENDS



Space Planning and Management

TEACHING AND LEARNING PEDAGOGIES



- PROCESS
- IMPORTANCE
- DEFINITIONS
- INVENTORIES
- MANAGEMENT
- PROGRAM NEEDS
- ANALYSIS
- TRENDS

Seminar

Additional space is needed for focused group work. Instructor is typically part of the process and does not have the same presence per class period. The majority of the class time consists of instruction among the students. Learning, collaboration, and discussion are most prevalent.




Lecture

The traditional classroom space supporting didactic pedagogies of varying class sizes. Space may include minor two-way communication using clickers or computers but its primary purpose is for one-based instruction. Larger spaces are favored and are not very flexible.



Space Planning and Management


TEACHING AND LEARNING PEDAGOGIES



- PROCESS
- IMPORTANCE
- DEFINITIONS
- INVENTORIES
- MANAGEMENT
- PROGRAM NEEDS
- ANALYSIS
- TRENDS


Group/Team

Group learning spaces promote a combination of student-based instruction with the capability of working out in small groups. Having provided a variety of pedagogies in class period. Project learning and discussion occur periodically during a class period.




Computer

Instructional space that requires the use of computers for the majority of the class period. Computer classes can be used by a variety of programs. Space can also double as a multi-use space when classes are not being held. Workstations and software are typically common amongst many programs.



Space Planning and Management

TEACHING AND LEARNING PEDAGOGIES




PROCESS
IMPORTANCE
DEFINITIONS
INVENTORIES
MANAGEMENT
PROGRAM NEEDS
ANALYSIS
TRENDS

Space Planning and Management

TEACHING AND LEARNING PEDAGOGIES


Flexible/Adaptable/Modular classrooms

A flexible classroom one that can be reconfigured in a variety of ways. These spaces are aimed to support change and flexibility. They are a great compromise to one one type of pedagogy.



Secluded Breakout

A space where a large lecture would occur for part of the class time, then break out into smaller spaces, possibly meeting again in a large lecture hall or computer lab at the end of the class period.



PROCESS
IMPORTANCE
DEFINITIONS
INVENTORIES
MANAGEMENT
PROGRAM NEEDS
ANALYSIS
TRENDS

Space Planning and Management

TEACHING AND LEARNING PEDAGOGIES

Table Round

This is similar to a lecture space but has a large table and chairs, but is not a large table and chairs for meeting or group work when not lecturing.



Interpreters (after conference)

Smaller classrooms with video conference capabilities. These spaces require connections with other classrooms in a building or even different every class period.



PROCESS
IMPORTANCE
DEFINITIONS
INVENTORIES
MANAGEMENT
PROGRAM NEEDS
ANALYSIS
TRENDS

Space Planning and Management



TEACHING AND LEARNING PEDAGOGIES

PROCESS

IMPORTANCE

DEFINITIONS

INVENTORIES

MANAGEMENT

PROGRAM NEEDS

ANALYSIS

TRENDS

Flipped

This space is a flexible classroom with tools to track back on your presentation skills. Recording capability and feedback from the audience is essential.




Blended

This classroom is for instruction that requires physical movement of students but is not clear enough to be considered a laboratory. This can be used for the arts, chemistry, biology, and other programs.



Space Planning and Management



TEACHING AND LEARNING PEDAGOGIES

PROCESS

IMPORTANCE

DEFINITIONS

INVENTORIES

MANAGEMENT

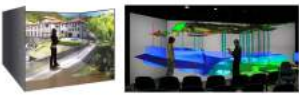
PROGRAM NEEDS

ANALYSIS


TRENDS

Audio Visual Simulation

Technology enables either virtual or audio simulation as the primary pedagogical tool. A virtual simulation is considered a laboratory. These spaces are flexible.



Space Planning and Management



ONLINE EXPLOSION

PROCESS

IMPORTANCE

DEFINITIONS

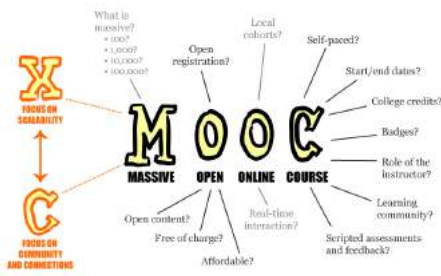
INVENTORIES

MANAGEMENT

PROGRAM NEEDS

ANALYSIS

TRENDS



MOOC
MASSIVE OPEN ONLINE COURSE

What is massive?
• 100?
• 1,000?
• 10,000?
• 100,000?

Open registration?

Local cohorts?

Self-paced?

Start/end dates?

College credits?

Badges?

Role of the instructor?

Learning community?

Scripted assessments and feedback?

Real-time interaction?

Affordable?

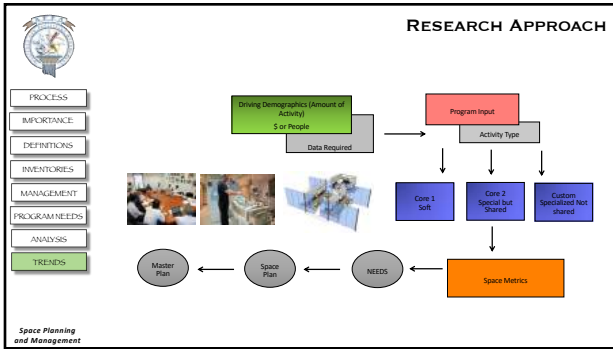
Free of charge?

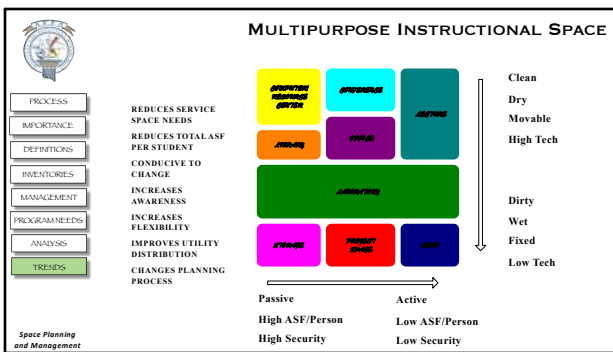
Open content?

Focus on SCALABILITY

Focus on COMMUNITY AND CONNECTIONS

Space Planning and Management







130 vs 6000
2D vs 3D

- PROCESS
- IMPORTANCE
- DEFINITIONS
- INVENTORIES
- MANAGEMENT
- PROGRAM NEEDS
- ANALYSIS
- TREND

15X

Space Planning and Management

SPACE AUDITS

- PROCESS
- IMPORTANCE
- DEFINITIONS
- INVENTORIES
- MANAGEMENT
- PROGRAM NEEDS
- ANALYSIS
- TREND

Room Number	Room Name	Room Area (sq ft)	Usage				Equipment	Inventories	Average Quality Level
			Availability	Accessibility	Flexibility	Usability			
1	CIBC	115	1	2	3	4	5	1	100
1A	CIBC	116	1	2	3	4	5	1	100
1B	CIBC	88	2	3	2	2	2	1	100
1C	CIBC	12	1	3	1	2	1	1	100
1D	CIBC	171	2	3	2	2	2	1	100
2	CYRST	229	4	3	2	1	4	4	2.50
3	MFCB	62	4	4	2	4	4	2	1.00
4	CIBC	31	1	3	1	3	1	1	100
4A	CIBC	26	1	2	1	2	2	1	100
5	MFCB	202	1	1	2	2	2	1	100
6	CYRST	72	1	3	1	1	2	1	100
7	CLLAB	200	1	2	1	2	1	1	100
8	COMI	41	1	3	1	1	1	1	100
8	OFF	124	1	1	1	1	1	1	100
8A	CLLAB	88	2	2	2	2	2	2	100
8B	CLLAB	108	2	2	2	2	2	2	100
8B	OFF	106	1	1	1	1	1	1	2.00
8C	CLLAB	106	1	1	1	1	1	1	2.00
8C	OFF	106	1	1	1	1	1	1	2.00
11	OFF	416	1	2	2	2	2	2	2.00

Space Planning and Management

STUDENT EXPECTATIONS

- PROCESS
- IMPORTANCE
- DEFINITIONS
- INVENTORIES
- MANAGEMENT
- PROGRAM NEEDS
- ANALYSIS
- TREND

Copyright 1998 Randy Glasbergen. www.glasbergen.com

GLASBERGEN

"There aren't any icons to click. It's a chalk board."

Space Planning and Management

STUDENT CENTERED

Space Planning and Management

SPACE AND BUILDING SIMULATION

Space Planning and Management

SPACE PER STUDENT IS RISING

- ◆ Additional Tools
- ◆ Reduced Class Sizes
- ◆ Computers at Stations
- ◆ Imaging and Projections Systems
- ◆ Collaborative Spaces
- ◆ Higher Percentage of Experiential
- ◆ Academic Support Programs

Does Web Based Instruction
Balance the Increase in Space?

Space Planning and Management

OUTSIDE SPACE ASSETS

Space Planning and Management

THANK YOU

Space Planning and Management
