

# Kellogg New Building

Benchmarking Summary 12-19 January 2010

## **NORTHWESTERN UNIVERSITY**

#### KELLOGG SCHOOL OF MANAGEMENT





## **BUILDING EXTERIOR**

Jacobs Center - Kellogg School of Management Ross School of Business



ARCHITECT:

**DeStefano + Partners** 

SIZE:

341.670 Sa Ft|31.434 m2

**Seven Floors** 

LEED CERTIFICATION:

None

TOTAL COST:

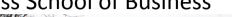
Not available

NUMBER OF FACULTY:

197

**NUMBER OF STUDENTS:** 120PhD, 1.300 MBA

NUMBER OF STAFF: 325





ARCHITECT:

Khon. Pederson and Fox

SIZE:

274.000 Sq Ft | 25.208 m2

Six Floors

LEED CERTIFICATION:

Silver

TOTAL COST:

145 MILLION USD

NUMBER OF FACULTY:

220 total (136 tenured/

tenure track)

NUMBER OF STUDENTS:

More than 900 MBA

More than 1000

Undergraduate

NUMBER OF STAFF:

Not available

#### Harvard Business School



ARCHITECT:

**Robert Stern** 

SIZE:

121.050 Sq Ft | 11.137 m2

**Three Floors** 

LEED CERTIFICATION:

Spangler opened in 2001, it does not meet the environmental standards they now employ for new construction and renovations.

TOTAL COST:

**Around 40 million USD** 

NUMBER OF FACULTY:

Not available

**NUMBER OF STUDENTS:** 

1.837 MBA

NUMBER OF STAFF:

Not available

#### The Wharton School



ARCHITECT:

Khon, Pederson and Fox

SIZE:

324.000 Sq Ft | 29.808 m2

**Eight Floors** 

LEED CERTIFICATION:

Not available

TOTAL COST:

139.9 MILLION USD

NUMBER OF FACULTY:

Not available

**NUMBER OF STUDENTS:** 

4.600

NUMBER OF STAFF:

Not available

### **BUILDING EXTERIOR**

Chicago Booth School of Business



ARCHITECT:
Rafael Viñoly
SIZE:

415.000 Sq Ft|38.180 m2

(including garage)
Six Floors

LEED CERTIFICATION:

No (no plans to try to get LEED certified) TOTAL COST:

106 Million USD

NUMBER OF FACULTY:

175

NUMBER OF STUDENTS: **120 PhD, 1.100 MBA** 

NUMBER OF STAFF: **200** 

### Sloan School of Management Building E62



Building was still under construction at the time of the visit.

ARCHITECT:

Moore Ruble Yudell Architects & Planners SIZE:

210.000 Sq Ft | 19.320 m2 Six Floors

LEED CERTIFICATION:

Will be submitted for a "LEED Silver" or higher rating by the U.S. Green

Building Council
TOTAL COST:

Not available

NUMBER OF FACULTY:

105

NUMBER OF STUDENTS:

85 PhD, 750 MBA, 300/400 Undergraduate,

100 Executives

NUMBER OF STAFF: ± 30

#### The Fuqua School of Business



ARCHITECT:

Perkins+Will

SIZE:

490.500 Sq Ft | 45.126 m2 Six Floors

LEED CERTIFICATION:

Silver

TOTAL COST:

Not available

NUMBER OF FACULTY:

Nearly 100 tenured faculty members

NUMBER OF STUDENTS:

Over 1.400 MBA

NUMBER OF STAFF:

Not available

#### Illinois University College of Business



ARCHITECT:

Cesar Pelli, Local Architects
SIZE:

160.000 Sq. Ft | 14.720 m2 Four Floors

LEED CERTIFICATION:

Platinum

TOTAL COST:

**65 MILLION USD**NUMBER OF FACULTY:

114 Full-time, 140 (total)

NUMBER OF STUDENTS:

100 Part-time and 200

Full-time MBA , 3.000 Undergraduates, 100 PhD.

NUMBER OF STAFF:± 200

## **HALLWAY**

New Program



### **HALLWAY**

### Jacobs Center - Kellogg School of Management Ross School of Business



One Vestibule (Main Entrance): 257,07 Sq Ft|23,65 m2

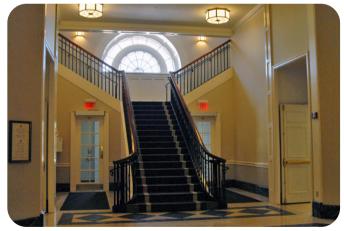
**Three** Vestibules: 178,91 Sq Ft|16,45 m2 278,59 Sq Ft|25,63 m2 93,15 Sq Ft|8,57 m2





The building has two large hallways to accommodate groups of people.

#### **Harvard Business School**



Two Hallways

#### The Wharton School





The building Hallway has to be large enough to accommodate groups of people.

## **HALLWAY**

### Chicago Booth School of Business

No pictures.

### Sloan School of Management Building E62

Building was still under construction at the time of the visit.

#### The Fuqua School of Business



This is used as Main Entrance. It is near the parking lot.

#### Illinois University College of Business



## **ATRIUM**

#### **New Program**

**One** Atrium: 6.000 Sq Ft | 552 m2

One feature of the Jacobs Center that works well is the Atrium. This space serves as a "town square," a place where people meet informally and where different events can take place. It is important to preserve this feature in the new building.

The existing Atrium is currently used for the weekly TGIF. The atrium is decorated with flags of different countries. This decorative element has symbolic value for the students who come to us from many different countries. It is desirable to find alternative ways to convey the diversity and global nature of the Kellogg community in the new building.

The area immediately adjacent to entry should convey a sense of the mission and culture of the school in a dignified setting. Food areas should be adjacent to the atrium.

### **ATRIUM**

### Jacobs Center - Kellogg School of Management Ross School of Business

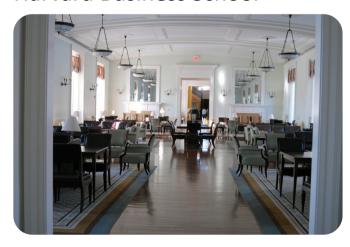


Atrium: 3.452 Sq Ft | 318 m2
The existing atrium is currently used for the weekly TGIF. The atrium is decorated with flags of different countries. This decorative element has symbolic value for the students who come to Kellogg from many different countries.



**Atrium:** Davidson Winter Garden: 2 levels, 200 people on 1<sup>st</sup> Floor (usually). Events: 1.500 people. People prefer to stay at the here than at the Library. This area has multileveled different spaces.

#### Harvard Business School



Center Lounge – 3.060 Sq Ft|281 m2, East Lounge – 720 Sq Ft|66,24 m2 and West Lounge – 720 Sq Ft|66,24 m2 (Spangler Center)

Picture: Center Lounge

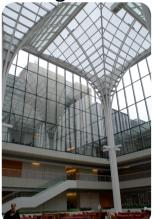
#### The Wharton School



Atrium:
4.000 Sq Ft | 368 m2
It is the center of undergraduate life and activity, accommodating up to 500 people for special events.

### **ATRIUM**

### **Chicago Booth School of Business**



Atrium: 6.200 Sq Ft | 570 m2 It seats 325 people for a seated dinner and 600 people seated theater style.

### Sloan School of Management Building E62

Building was still under construction at the time of the visit.

The Atrium is two store height.

#### The Fuqua School of Business



Kirby Winter Garden (Fox Student Center): 5.567 Sq Ft | 512 m2 112x55 Ft | 34,14x16,76m

#### Illinois University College of Business





Atrium: 8.000 Sq Ft | 736 m2

## **AUDITORIUM**

### **New Program**

The **750-seat** auditorium was eliminated.

Kellogg will either continue to use the Jacobs Center L.C. Forum or, if feasible, the atrium for 500 people in item 6 of Program will be designed to double as lecture hall.

Large Multi-purpose Room can be used as Auditorium.

## **AUDITORIUMS**

Jacobs Center - Kellogg School of Management Ross School of Business



Coon Auditorium **600-seat** Auditorium 6.217 Sq Ft | 572 m2



**499-seat**, with 299 seats on the main level and 200 in the balcony

#### **Harvard Business School**



**350-seat** Auditorium (Spangler Center)



900-seat Burden Auditorium

Picture: http://www.hbs.edu/campus/

#### The Wharton School



300-seat Auditorium

### **AUDITORIUMS**

#### Chicago Booth School of Business

There is no auditorium.

#### Sloan School of Management Building E62

Building was still under construction at the time of the visit.

#### The Fuqua School of Business



. Geneen Auditorium (Keller Center East):

#### 467-seat

4.830 Sq Ft | 444 m2 76x74 Ft | 23,16x22,56m . McClendon Auditorium (Breeden Hall):

#### **126-seat**

2.105 Sq Ft | 194 m2 42x56 Ft | 12,80x17,07m . R.J.Reynolds Auditorium (Keller Center West):

#### 68-seat

1.490 Sq Ft | 137 m2 41x41 Ft | 12,50x12,50m

### Illinois University College of Business



**300-seat** Auditorium. It is currently being used as a classroom even though it was not designed for this purpose.

## **CLASSROOM - I**

#### **New Program**

- . One Very Large Tiered Classroom: 150 seats 3.300 Sq Ft | 303,60 m2
- . **Two** Case Discussion Classrooms Horseshoe shaped: **75 seats** 2.100 Sq Ft | 193,20 m2
- . **Seven** Large Tiered Classrooms: **75** seats 1.800 Sq Ft | 165,60 m2
- . Five Small Tiered Classrooms: 50 seats 1.350 Sq Ft | 124,20 m2
- . **One** Flat Classroom: **50** seats 1.350 Sq Ft | 124,20 m2
- . One Experimental Classroom: 50 seats 1.350 Sq Ft | 124,20 m2



Case Discussion Classroom: 75 seats 2.100 Sq Ft | 193,20 m2



Very Large Tiered Classroom: 150 seats 3.300 Sq Ft | 303,60 m2 RBD.APP — Architects, Ltd.



Large Tiered Classroom: 75 seats 1.800 Sq Ft | 165,60 m2



Small Tiered Classroom: 50 seats 1.350 Sq Ft |124,20 m2

### **CLASSROOMS - I**

#### Jacobs Center - Kellogg School of Management



NUMBER AND TYPE OF CLASSROOMS: **Two** Very Large Tiered Classrooms: **101 / 94 seats** 

Eight Large Tiered Classrooms: 63 / 70 / 62 / 56 / 57 / 66 /65 / 65 seats

Five Small Tiered Classrooms: 41 / 50 / 40 / 34 / 35 seats One Flat Classroom: 94

seats

#### **Ross School of Business**



NUMBER AND TYPE OF CLASSROOMS:

Twelve Case Discussion Classrooms - Horseshoe shaped: **85 seats or** more.

**Five** Flat Classrooms: **40 seats** 

Classrooms are distributed on lower, ground and second floors.

#### Harvard Business School



Large Case Discussion Classroom: **95 seats** (current occupancy **101 seats**)

#### The Wharton School



. **75-seat** classrooms (current occupancy **77 seats**; maximum occupancy **88 seats**) . **Flat** classrooms . **150-seat** classrooms: There are two classrooms of this kind (faculty think that is a magic number and that there should be more **150-seat** 

classrooms).

25-seat classrooms

### **CLASSROOMS - I**

### Chicago Booth School of Business



NUMBER AND TYPE OF CLASSROOMS:

- . **Ten** normal classrooms: **75-seat** (40x48 Ft | 12,19x14,63 m)
- . One large classroom: 137-seat . One flat classroom: 35-seat (which they seldom use)

### Sloan School of Management Building E62



Classroom at the existing building. The new one was still under construction at the time of the visit.

NUMBER AND TYPE OF CLASSROOMS: All different:

- . Flat: 75-seat (1st floor)
- . Flat: 85-seat (1st floor)
- . Case discussion: 105-

#### seat (2<sup>nd</sup> floor)

- . Case discussion: **85-seat** (2<sup>nd</sup> floor)
- . Gentle Arc: **59-seat**
- (2<sup>nd</sup> floor)
- . Flat Classroom:**108-seat**
- (2<sup>nd</sup> floor)
- . Case discussion: **80-seat** (2<sup>nd</sup> floor)
- . Flat: 36-seat (2<sup>nd</sup> floor)

#### The Fuqua School of Business



NUMBER AND TYPE OF CLASSROOMS:

Nine Large tiered Classrooms: 72 seats (current occupancy 78 seats) - variable: 1.382 Sq Ft | 127 m2 / 1.572 Sq Ft | 145 m2

One Small tiered Classroom: 56 seats 1.130 Sq Ft | 104 m2

#### Illinois University College of Business



NUMBER AND TYPE OF CLASSROOMS:

- . Five Large Tiered: 75 seats
- . Thirteen Flat (including two Trading Rooms)

### TECHNOLOGICAL CLASSROOMS

#### **New Program**

. One Asset Management Trading Room: 35 seats – 1.200 Sq Ft | 110,40 m2

The Asset Management Trading Room is a virtual trading room, which might be equipped with real-time stock quotes, financial data feeds and a host of other software on individual terminals for each enrolled student.

The Asset Management Trading Room can be one floor away from research computing, but it needs to be within easy reach of research computing.

As it is going to be used as a marketing tool it should be near lots of student activity.

It will have:

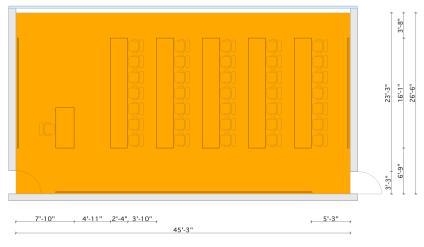
A 75 square feet | 6,90 m2 office for the lab manager.

A 150 square feet | 13,80 m2 office that can be locked for the students to buy and sell financial instruments for the Asset Management Program.

The servers can be with the KIS server room so we do not have to budget additional space.



Asset Management Trading Room: 35 seats 1.200 Sq Ft | 110,40 m2



Asset Management Trading Room: 35 seats – 1.200 Sq Ft | 110,40 m2

18

### TECHNOLOGICAL CLASSROOMS

#### Jacobs Center - Kellogg School of Management

No pictures.

Asset Management Trading Room – 148 Sq Ft | 13,60 m2 Ross School of Business: No information.

Harvard Business School: There are no other type of classrooms.

The Wharton School: No information.

Chicago Booth School of Business: No information.

**Sloan School of Management Building E62:** Building was still under construction at the time of the visit.

#### The Fuqua School of Business



One Technological Classroom (Breeden Hall): 146 seats 2.390 Sq Ft | 220 m2

### Illinois University College of Business

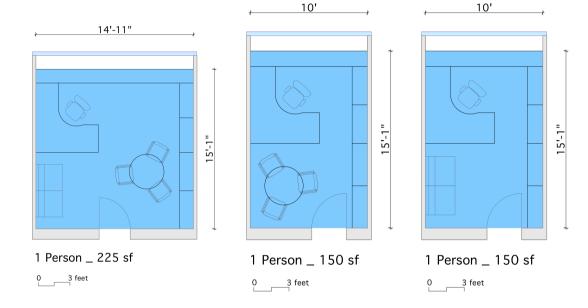


## **FACULTY OFFICES**

#### **New Program**

- . Six Chair offices: 225 Sq Ft | 20,70 m2
- . **Two hundred and fifty-seven** regular offices: 150 Sq Ft | 13,80 m2

Note: Economics Department is not included.





Chair Office – 225 Sq Ft | 20,70 m2



Faculty Office - 150 Sq Ft | 13,80 m2



Faculty Office – 150 Sq Ft | 13,80 m2

### **FACULTY OFFICES**

### Jacobs Center - Kellogg School of Management Ross School of Business



Six Chair offices – variable: 263,81 Sq Ft | 24 m2 / 342,17 Sq Ft| 31,48 m2

One hundred and ninety-one regular offices – variable: 118,80 Sq Ft | 10,92 m2 / 320 Sq Ft | 29,44 m2. Average: 171,47 Sq Ft | 15,77 m2

Note: Economic Department is not included.



One hundred and eighty-

seven offices: One hundred and fourteen offices ± 180 Sq Ft | 16,56 m2, plus seventy-three offices 140/160 Sq Ft| 12,88 m2/14,72 m2

Faculty offices are distributed on third, fourth, fifth and sixth floors. Students don't have access to the faculty floors.

#### Harvard Business School



Average 200 Sq Ft | 18,40 m2

#### The Wharton School

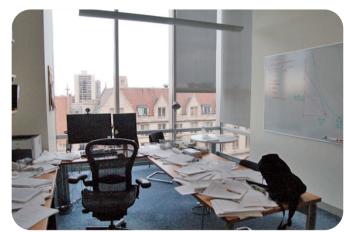


During the visit, it was not possible to take pictures of the faculty offices.

The building, known as "the Tower", is mostly occupied by faculty offices, with exactly the same size.

## **FACULTY OFFICES**

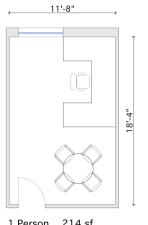
#### Chicago Booth School of Business



One hundred and sixtythree offices – Average 200 Sq Ft | 18,40 m2

### Sloan School of Management Building E62

Building was still under construction at the time of the visit.







214 Sq Ft | 19,69 m2

#### The Fuqua School of Business

No information.

#### Illinois University College of Business

0 \_\_\_3 feet



There are thirty-one Faculty Offices. 135 Sq Ft | 12,42 m2

### **CONFERENCE ROOM**

#### **New Program**

#### **Learning and Research Environments:**

. **One** Virtual Collaboration Room: **30 people** - 720 Sq Ft  $\mid$  66,24 m2 This space is envisioned as a high-end conference room with sophisticated tele-presence/collaboration equipment in it. For example, the conference table can end in a video wall so that people at the remote site appear to be seated at the table next to the session participants at Kellogg.

#### **Kellogg School of Management Administrative Offices:**

- . **One** Executive Conference Room (Board Room): **30 people** 750 Sq Ft | 69 m2 (Office of the Dean)
- . **Three** Conference Rooms: **12 people** 300 Sq Ft | 27,60 m2 (Office of the Dean, Alumni Relations and Development, Marketing and Communication)
- . One Small Conference Room: 6 people 150 Sq Ft  $\mid$  13,80 m2 (Alumni Relations and Development)

#### **Student Services:**

- . One Meeting Room: 40 people 1.000 Sq Ft | 92 m2 (Shared Areas)
- . One Conference Room: 14 people 378 Sq Ft | 34,78 m2 (Student Affairs)
- . **Two** Conference Rooms: **12 people** 300 Sq Ft | 27,60 m2 (CMC, Admissions)
- . One Recruiters Meeting Room: 12 people 300 Sq Ft | 27,60 m2 (CMC)

#### **Departmental Administrative, Faculty and Centers Offices:**

- . One Seminar Room: 40 people 1.000 Sq Ft | 92 m2 (FIN, MORS)
- . Four Seminar Rooms: 30 people 750 Sq Ft | 69 m2 (FIN, M&S, MEDS, MKTG)
- . One Small Seminar Room: 20 people 500 Sq Ft | 46 m2 (AIM)
- . One Large Conference Room: 20 people 640 Sq Ft | 58,88 m2 (MORS)
- . Seven Conference Rooms: 12 people 300 Sq Ft | 27,60 m2 (FIN, M&S,

MEDS, MKTG, Centers/Programs Shared Areas)

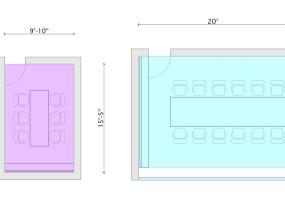
Note: Economic Department is not included.

#### **Kellogg Information Services:**

- . One Conference Room: 12 people 300 Sq Ft | 27,60 m2
- . One Small Conference Room: 6 people 150 Sq Ft | 13,80 m2

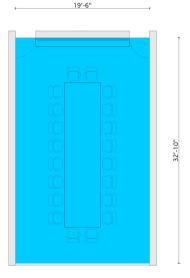


Board Room - 30 people



6 People \_ 150 sf

12 People \_ 300 sf



20 People \_ 640 sf

### **CONFERENCE ROOM**

#### Jacobs Center - Kellogg School of Management



- . **One** Seminar Room: 528 Sq Ft | 48.58 m2
- . **Five** Large Conference Rooms variable: 265,87 Sq Ft | 24,46 m2/490,11 Sq Ft | 45,09 m2

Average: 366,22 Sq Ft |33,69 m2

. Ten Conference Rooms -

variable: 131.41| 12,09 m2 / 557,5 Sq Ft | 51,29 m2

Average: 322,77 Sq Ft |29,69 m2

. One Small Meeting Room:

198 Sq Ft | 18,22m2

Note: Economics Department is

not included.

No information about KIS.

#### **Ross School of Business**







There are **nineteen** conference rooms ranging in size from 113 Sq Ft | 10,40 m2 to 477 Sq Ft | 43,88 m2.

- 1. Board Room 20 people
- 2. Conference Room in Faculty Department 8/10 people
- 3. Conference Room in Dean's Office 15 people

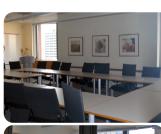
#### Harvard Business School



Conference Room – 12 people (Spangler)

Note: There are no seminar rooms in the building.

#### The Wharton School



Every department has two Conference Rooms.



24 people Conference Room

15 people Conference Room

### **CONFERENCE ROOM**

#### Chicago Booth School of Business

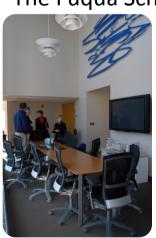


- . **Five** conference rooms for faculty in the whole building: **two** small rooms for 4 people, **one** room for 12 people (225 Sq Ft | 20,70 m2, and **two** rooms for 16 people.
- . **Three** staff conference rooms: **one** for 10 people, **one** for 14 people, and **one** for 22 people.
- . All administrative departments have one conference room for 10 to 12 people.
- . **One** Large seminar room: 40-seat (54 Ft x 26 Ft | 16,46x7,92 m)

#### Sloan School of Management Building E62

Building was still under construction at the time of the visit.

#### The Fuqua School of Business



Fox Student Center:

**90-seat** Jerkins Conference A-B: 1.433 Sq Ft | 131,84 m2

**14-seat** Conference 14: 548 Sq Ft | 50,42 m2

Keller Center East:

**50-seat** Seminar G: 1.192 Sq Ft | 109,66 m2 **24-seat** Seminar A-F: 577 Sq Ft | 53,08 m2

Keller Center West:

10-seat Davis Conference: 304 Sq Ft | 27,97 m2

Magat Academic Center:

**32-seat** McKingley Seminar Room – 427 Sq Ft | 39,28m2

**18-seat** DeSanctis Seminar Room – 605 Sq Ft | 55,66 m2

**10-seat** Conference 4: 236 Sq Ft | 21,71 m2

**12-seat** Morrow Conference Room: 377 Sq Ft | 34,68m2

Breeden Hall

10-seat Conference Rooms

#### Illinois University College of Business



Picture: **10 people** conference room

There are **eight** conference rooms available for student reservation.

Faculty have a dedicated Conference Room on the 4th Floor.

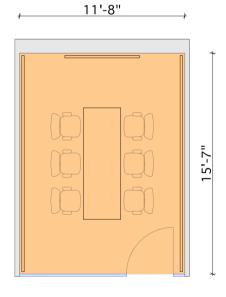
## STUDY ROOM

### **New Program**

. Sixty-five Study Rooms: 180 Sq Ft/each | 16,56 m2/each







6 People \_ 180 sf

3 feet

## STUDY ROOM

### Jacobs Center - Kellogg School of Management Ross School of Business

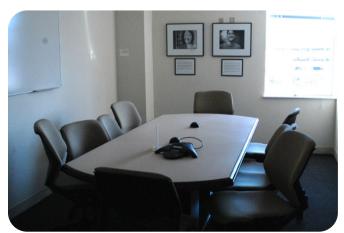


Forty-six **Study Rooms** Average: 188 Sq Ft | 17,30 m2



Twenty-four Study Rooms - **6 people** - 140 Sq Ft | 12,88 m2 There are two of these rooms to support each U-shaped discussion classrooms to guarantee the conversations and explorations so essential to successful team-based learning.

#### Harvard Business School



Spangler has thirty**two** project rooms for student team activities:

. Twenty Project Rooms – 8 people . **Twelve** Project Rooms – 6 people

#### The Wharton School



Fifty-seven Study Rooms

Entry is allowed by card, code or key.

### STUDY ROOM

#### Chicago Booth School of Business

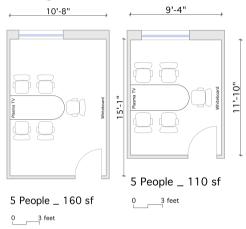




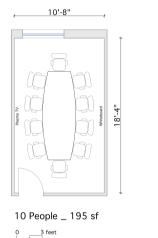
**Thirty-one** Study Rooms – 132 Sq Ft | 12,14 m2, 11 Ft x12 Ft | 3,35x3,66 m They have renovated a nearby building to create more study space.

### Sloan School of Management Building E62

Building was still under construction at the time of the visit.



**Twenty-nine** Study Rooms – 5/6 People 160 Sq Ft | 14,72 m2 / 110 Sq Ft | 10,12 m2



Six Study Rooms - 10 People 195 Sq Ft | 17,94 m2

#### The Fuqua School of Business



Keller Center East:
Thirty Team Rooms –
6 people (current
occupancy 7 people) –
140 Sq Ft | 12,88m2 .
10x15 Ft | 3,05x4,57 m

Breeden Hall:

Twenty-eight

Team Rooms —
6 People (current
occupancy 7 people) —
140 Sq Ft | 12,88 m2 .
10x15 Ft | 3,05x4,57 m

#### Illinois University College of Business

There is no study rooms.

## PhD AREA

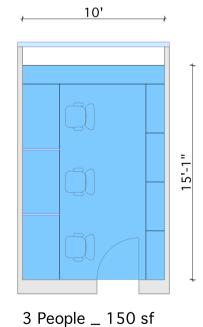
### New Program

. Fifty-two PhD Offices: 3 people - 150 Sq Ft | 13,80 m2

Note: Economic Department is not included.







3 feet

### PhD AREA

#### Jacobs Center - Kellogg School of Management



#### Thirty-seven

PhD offices – variable: 109,57 Sq Ft | 10,08m2 / 791,09 Sq Ft | 72,78m2

The PhD Office in the picture is 410,98 Sq Ft | 37,81 m2.

#### **Ross School of Business**



4.751 Sq Ft | 437,09m2 with sixty-nine cubes in the lower level and eight offices on the faculty floors for an additional forty PhDs (2 – 6 people/room)
Some of the interior faculty offices were converted in PhD offices for 6 people.
They have no natural light but there are glass walls to the corridors.

#### The Fuqua School of Business





**Area:** about 35 Sq Ft | 3,22 m2

Harvard Business School: No information.

The Wharton School: No information.

**Chicago Booth School of Business:** Ph.D. student space is 17 Ft x 38 Ft | 5,18x11,58 m (646 Sq Ft | 59,43 m2) and seats 16 Ph.D. students.

**Sloan School of Management Building E62:** Building was still under construction at the time of the visit.

Illinois University College of Business: . They do not have a dedicated space for PhD students in the Business Instructional Facility. Their 100 PhD students occupy offices and common work spaces in Wohlers Hall, David Kinley Hall and an adjacent Survey Building. Long term, they are looking to renovate dedicated space for PhDs.

### STAFF AREA

#### **New Program**

There are different kinds of Staff:

- . 25 Sq Ft | 2,30 m2 Staff
- . 50 Sq Ft | 4,60 m2 Staff
- . 75 Sq Ft | 6,90 m2 Staff
- . 150 Sq Ft | 13,80 m2 Staff
- . Two RBL Reception Areas: 375 Sq Ft | 34,50 m2, capacity 15
- . One Office of the Dean's Reception Area: 240 Sq Ft | 22,08 m2, capacity 8
- . Two Office of the Dean's Receptionists: 50 Sq Ft | 4,60 m2, capacity 1
- . One Alumni Relations and Development Reception Area (shared): 240 Sq Ft | 22,08 m2, capacity 8
- . One Reception Area and Department Assistant: 120 Sq Ft | 11,04 m2, capacity 4
- . Six Department Reception Areas: 240 Sq Ft | 22,08 m2, capacity 8
- . One Social Enterprise at Kellogg, Public Nonprofit (PNP/SEEK) + Ford Motor Company Center for Global Citizenship Reception Area: 180 Sq Ft | 16,56 m2, capacity 6
- . One Health at Kellogg Reception Area: 180 Sq Ft | 16,56 m2, capacity 6
- . One Centers/Programs Reception Area (shared with 3.8 / 3.9 / 3.10 / 3.11 / 3.12): 240 Sq Ft | 22,08 m2, capacity 8
- . One Career Management Services Administrative Offices (CMC) General Reception Area: 360 Sq Ft | 33,12 m2, capacity 12
- . One Career Management Services Administrative Offices (CMC) Interview Reception Area: 1080 Sq Ft | 99,36 m2, capacity 36
- . One Admissions Reception Area: 360 Sq Ft | 33,12 m2, capacity 12
- . **One** Financial Aid Reception Area: 150 Sq Ft | 13,80 m2, capacity 5
- . One Student Affairs Reception Area: 360 Sq Ft | 33,12 m2, capacity 12
- . One Kellogg Information Systems FASTCATS Reception Area: 180 Sq Ft | 16,56 m2, capacity 6
- . One Kellogg Information Services Student Computing Group Reception Area: 240 Sq Ft | 22,08 m2, capacity 8



### STAFF AREA

Jacobs Center Kellogg School of Management



**Ross School of Business** 



The Wharton School





#### Harvard Business School



Student and Academic Services (Spangler Center)



Staff space near Faculty offices Picture: Jan A. Van Mieghem

Chicago Booth School of Business: No information.

Sloan School of Management Building E62: Building was still under

construction at the time of the visit.

Illinois University College of Business: No information.

### The Fuqua School of Business









## **FOOD SERVICE**

#### **New Program**

- . One Large Food Servery: 2.376 Sq Ft | 218,59 m2
- . One Small Food Servery: 864 Sq Ft | 79,49 m2
- . Three Food Service Manager Office: 75 Sq Ft/each | 6,90 m2 /each
- . **One** Kitchen: 1.478 Sq Ft | 135,98 m2
- . **One** Large Kitchen Storage/Warewash: 950 Sq Ft | 87,40 m2
- . **One** Small Kitchen Storage/Warewash: 346 Sq Ft | 31,83 m2
- . Three Vending Areas: 100 Sq Ft/each | 9,20 m2 /each

Food areas should be adjacent to the atrium.

### FOOD SERVICE - FOOD SERVERY

### Jacobs Center - Kellogg School of Management Ross School of Business



- . Atrium
- . One Coffee Bar 102 Sq Ft | 9,38 m2
- . Small Food Servery 1.823,80 Sq Ft | 167.79 m2
- . Small Kitchen Storage/Warewash -920,11 Sq Ft | 84,65 m2

There is no area only dedicated to food service / seating area

Food Service: Aramark



First Floor

. One Coffee Bar - Seigle Cafe - Surrounded by the Blau Auditorium, and informal meeting spaces, and spacious Winter Garden.

. The loading dock and the kitchen are on opposite sides of the building. They are considering building a service tunnel to connect the kitchen to the loading dock.

. Food Service: Aramark

#### Lower Level Harvard Business School



**Food Court** First Floor



The Grille Survery Lower Level

Food service offers a popular healthy menu. They have a main kitchen in the lower floor beneath the courtyard and a finishing kitchen in the first floor next to Williams Room. There is a kitchen elevator.

- . Food Court
- . The Grille 168 seats

#### The Wharton School





Second Floor

First Floor

Their advice: "No long term commitments to vendors". Make sure there is a lot of food choices.

### FOOD SERVICE – FOOD SERVERY

#### Chicago Booth School of Business



The restaurant seats

140 people.

First Floor

Food Service:

Aramark

#### Sloan School of Management Building E62

Building was still under construction at the time of the visit.

- . Two private dining rooms 12 people/each
- . Community dining **200 people**
- . Special Dining area Faculty Club experience (buffet area **150 people**)
- . Kitchen 1 floor bellow – it supports the 2 areas
- . One catering area.

#### The Fuqua School of Business



It is the servery of the McClendon Dining Room (Fox Student Center)

They switched from Aramak to Merswether Godsey. They think that the new vendor has higher food quality.



It is the servery of the dining room at Thomas Center.

#### Illinois University College of Business



Just a small Cafe. They don't have a kitchen. They only have a catering staging area. No seating area.

First Floor

## FOOD SERVICE - SEATING AREA

#### **New Program**

- . **One** Large Seating Area: **250** seats 4.000 Sq Ft | 368 m2
- . **One** Small Seating Area: **120** seats 1.920 Sq Ft | 176,64 m2
- . One Faculty Seating Area: capacity- 80 people 1.280 Sq Ft | 117,76 m2
- . **One** Coffee Bar: capacity- **80 people** 1.280 Sq Ft | 117,76 m2



# FOOD SERVICE - SEATING AREA

# Jacobs Center - Kellogg School of Management

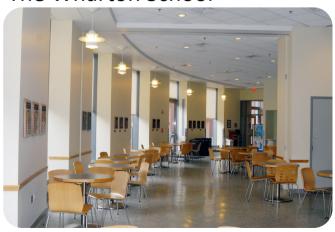
#### Atrium

Number of seats in eating area: 230 The eating area seats in Jacobs are in the lounge and study areas.

There is no area **only** dedicated to food service / seating area

#### l ower Leve

### The Wharton School



The MBA Cafe is a multifunction space.

Second Floor

### **Ross School of Business**

There is no dedicated food eating area in the building, so students have to eat outside of the building.

### Harvard Business School



Dining Hall – 700 people – 4.000 Sq Ft | 368 m2

First Floor



**The Grille** – 168-seat Lower Level

# FOOD SERVICE - SEATING AREA

## Illinois University College of Business

No seating area.

# The Fuqua School of Business



Room (Fox Student Center): 8.677 Sq Ft | 798,28m2, 112x112 Ft | 34,14x34,14 m Capacity: 350 dining plus 60 lounge seating





Dining room (Thomas Center)- 250 seats

# Sloan School of Management Building E62

Building was still under construction at the time of the visit.

## Chicago Booth School of Business



First Level

# **PANTRY**

### **New Program**

Kellogg School of Management Administrative Offices (Office of the Dean, Alumni Relations and Development, Marketing and Communication):

. **Three** Pantries: 100 Sq Ft | 9,20 m2

Departmental Administrative, Faculty and Centers Offices (AIM, FIN, MORS, M&S, MEDS, WCAS, MKTG, Centers/Programs Shared Areas):

. **Eight** Pantries: 100 Sq Ft | 9,20 m2

Note: Economic Department is not included.

Student Services (Career Management Services Administrative Offices (CMC), Admissions, Student Affairs):

. **Four** Pantries: 100 Sq Ft | 9,20 m2

#### **Kellogg Information Services:**

. **One** Pantry: 100 Sq Ft | 9,20 m2

#### **Requirements:**

Windows: Not required.

Lighting: Task.

Technology: Three duplex outlets, T/D ports, wireless network access.

Ability to easily adapt systems as technologies evolve.

 $\label{prop:continuous} \mbox{Equipment: Microwave, refrigerator, coffee-machine, sink} \; .$ 

Built-ins: Counters, cabinets.

Furnishings:

# **PANTRY**

Jacobs Center - Kellogg School of Management Ross School of Business



This room is a workroom, that includes pantry, copy, files.





This room is a workroom, that includes pantry, copy, files.

Pantry

### **Harvard Business School**

No information.

### The Wharton School



**Pantry** 

RBD.APP – Architects, Ltd. 40

# **PANTRY**

# Chicago Booth School of Business



# Sloan School of Management Building E62

Building was still under construction at the time of the visit.

# The Fuqua School of Business



This room is a workroom, that includes **pantry** and copy.

## Illinois University College of Business



**Recruiter Break Room** 

# **MULTI-PURPOSE AREAS**

### **New Program**

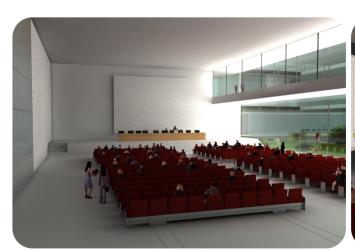
The **Large Multi-Purpose Room** can be combined with the Atrium to accommodate **600** students on Auditorium style seating – 5.950 Sq Ft | 547,40 m2

It is also required to make this space flexible so that it can be used for different functions. For example, one might want to transform the space into a dining room for special events, exhibitions, conferences.

One way to obtain flexibility is to place the seats on rails. The seats can be easily removed and accommodated underneath the stage.

An alternative solution is to use of telescopic risers. This solution would provide seating for 350 people when necessary. But the seats can be easily retracted leaving a large fraction of the space available for other uses. More information about this solution can be found at:

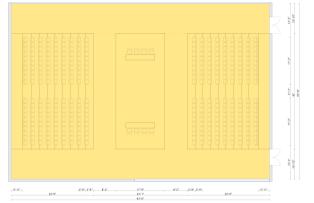
http://www.figueras.com/html/engineering/en/tribunas.jspp





Multi-purpose Room - 350 people







# **MULTI-PURPOSE AREAS**

### Jacobs Center - Kellogg School of Management



**Atrium** 3.452 Sq Ft | 317,58 m2

#### Harvard Business School



**Williams Room** – 300 people – 4.000 Sq Ft | 368 m2

Williams Room is divided into three different spaces. This configuration makes it possible to have more intimate spaces.

#### **Ross School of Business**

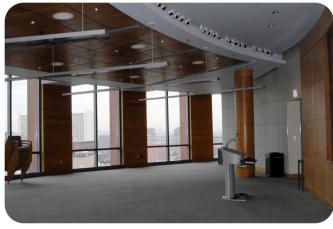


**Colloquium** (4.069 Sq Ft | 374,35 m2), located on the top floor, hosts receptions and dinners for students, alumni, faculty, and visiting dignitaries. It features a main presentation room with seating for 250 people, as well as meeting rooms. It can be divided in two spaces.



**Multi-purpose Room** 

### The Wharton School



colloquium, located on the top floor, will host faculty research events. It features a main presentation room with seating for up to 200, as well as meeting rooms. East Hall, a sky-light meeting space with commanding views of both the academic core of Penn's campus and of Center City, Philadelphia.

# **MULTI-PURPOSE AREAS**

## **Chicago Booth School of Business**



The **Atrium** is configurable for different events.

Picture: Large meeting room: 550 people with no light that can be divided into three rooms with movable dividers (the brand is Hufcor).

### Sloan School of Management Building E62

Building was still under construction at the time of the visit.

The **Atrium** and **Dining Community** are configurable for multi events.

The Atrium is two store height.

### The Fuqua School of Business







512,16 m2
2. Davis Meeting
Room (Breeden Hall):
1.087 Sq Ft | 100 m2
3. Kirby Reading
Room (Keller Center
East)

1. Kirby Winter Garden (Fox Student Center): 5.567 Sq Ft |

4. Esbenshade Meeting Room (Breeden Hall): 1.087

Sq Ft | 100 m2

Pictures 2 and 4: "The Fugua School of Business Reservable Space Attributes", pp.22, 26.

## Illinois University College of Business

The massive commons area is also configurable for studying, events and theatrestyle lectures.

# LOUNGES / BREAKOUT AREAS

### **New Program**

#### **Kellogg School of Management Administrative Offices:**

. Two Break Room/Lounges (Alumni Relations and Development and Marketing and Communication): capacity: 12 people - 360 Sq Ft | 33,12 m2

#### **Departmental Administrative, Faculty and Centers Offices:**

- . Four Break Room/Lounge (AIM, MORS, WCAS, Centers/Programs Shared Areas): capacity: 12 people 360 Sq Ft | 33,12 m2
- . Four Break Room/Lounge (FIN, M&S, MEDS, MKTG): 24 people 720 Sq Ft | 66,24 m2

Note: Economic Department is not included.

#### **Common Areas:**

. Four Student Lounge (Open): 50 people – 1.250 Sq Ft  $\mid~115~\text{m2}$ 

. Four Student Lounge (Quiet): 50 people – 1.250 Sq Ft | 115 m2

. One Staff Lounge: 30 people - 900 Sq Ft | 82,80 m2

#### **Requirements:**

Windows: Natural light. Views required

Lighting: Task and indirect.

Technology: Four duplex outlets, T/D ports, wireless network access, and temperature control.

Ability to easily adapt systems as technologies evolve.

Built-ins: Shelving.

Furnishings: Soft seating, table and chairs.

# LOUNGES / BREAKOUT AREAS

### Jacobs Center - Kellogg School of Management

No pictures.

. **One** Faculty Lounge: 361 Sq Ft | 33,21 m2 . **Four** Student Lounge (Open): 4.672 Sq Ft (Total NSF) | 429,82 m2

. **Two** Student Lounge (Quiet): 2.574,02 Sq Ft | 236,81 m2 / 628,45 Sq Ft | 57,82 m2

. **One** Staff Lounge: 393 Sq Ft | 36,16 m2

. Six Break Room/Lounge (FIN, M&S, MEDS, MKTG): 329,35 Sq Ft | 30,30 m2 / 371,52 Sq Ft

| 34,18 m2 / 144,67 Sq Ft | 13,31 m2 / 347,83 Sq Ft | 32 m2 / 237,83 Sq Ft | 21,88 m2 / 171,96 Sq Ft | 15,82 m2

Note: Economic Department is not included.

### **Ross School of Business**







There are sixty-five Breakout Rooms in the campus. In this building there are **twenty-four** of those. There are **eighteen 6 person** rooms with 137 Sq Ft | 12,60 m2 and **six 9 person** rooms with 195 Sq Ft | 17,94m2.

### Harvard Business School











Center Lounge
 (Spangler Center)
 and 3. Breakout Area
 (Aldrich Hall)
 and 5. The Grille's
 Lounge (Spangler
 Center)

### The Wharton School







- 2 Study Lounges 2 Social Lounges
- 1. MBA Lounge
- 2. Faculty Lounge
- 3. Faculty Lounge

# LOUNGES / BREAKOUT AREAS

## Chicago Booth School of Business



**Student Lounge** 



**Faculty Lounge** 

**Breakout area** 

# Sloan School of Management Building E62

Building was still under construction at the time of the visit.

### The Fuqua School of Business









2. Faculty Hall (Keller Center West):
2.104 Sq Ft |
193,57 m2, 55x40 Ft |
16,76x12,19 m, 96-126 dining, 24-72 seminar
3. Kirby Reading Room (Keller Center East)
4. Faculty & Staff Lounge (Magat Academic Center):
681 Sq Ft | 62,65 m2, 35x21 Ft |

10,67x6,40m, 21 seats

1. Lounge

# Illinois University College of Business





Recruiter Break Room Student Breakout Areas:
Six private breakout rooms are approximately 90-100 Sq Ft | 8,28-9,20 m2 and include table, chairs and LCD screen. In addition, eight conference rooms are available for student reservation. They created "spaces" in addition to rooms with group seating and whiteboards tucked in hallways; there are about seven such spaces. The seven lounges for students and staff – mostly small to moderate in size and dispersed among the top floors.

47

Pictures 2 and 4: "The Fuqua School of Business Reservable Space Attributes", pp.90, 106.

# MAIL BOXES

# New Program

One thousand and five-hundred mail boxes.

Near Central Mail Area and Locker Area.

Requirements:

Built-ins: Circulation wall.

# MAIL BOXES

Jacobs Center - Kellogg School of Management Ross School of Business



One thousand and three hundred mail boxes

No information.

#### **Harvard Business School**



Aldrich Hall mail boxes



**Spangler Center mail boxes** Students put their papers and books in the mailboxes, while they go to the Business Center.

### The Wharton School



# MAIL BOXES

Chicago Booth School of Business



# Sloan School of Management Building E62

Building was still under construction at the time of the visit.

The Fuqua School of Business



Illinois University College of Business



# **LOCKER AREA**

## **New Program**

Locker Area: 4.500 Sq Ft (Total NSF) | 414 m2

#### Requirements:

Windows: Not required

Built-ins: Locker units. Each student will have a half-locker of the type found in most fitness centers with the overlapping sections in the middle to allow longer

garments to be stored.

# LOCKER AREA

## Jacobs Center - Kellogg School of Management Ross School of Business



#### Six Locker Areas:

- . 613,37 Sq Ft | 56,43 m2 . 305,22 Sq Ft | 28,08 m2
- . 380,33 Sq Ft | 34,99 m2
- . 581,09 Sq Ft | 53,46 m2 . 875,22 Sq Ft | 80,52 m2
- . 416,96 Sq Ft | 38,36 m2



There are two kind of lockers, 1200 lockers plus 700. Some of them are close to the gymnasium. Lockers are not deep enough to put clothes. So they had to buy hangers for baby clothes.

#### Harvard Business School



**Buildings of Campus** are connected by tunnels with lockers.

### The Wharton School





Lockers: Focus Groups asked for small lockers to be used just for storing laptops and the next ones wanted them bigger. They had to be changed and they lost 2/3 of the space.

# **LOCKER AREA**

# **Chicago Booth School of Business**



# Sloan School of Management Building E62

Building was still under construction at the time of the visit.

## The Fuqua School of Business





. Every student has a locker with a slot for the mail.

The lockers have a large dedicated area which promote a good organization, but it is wasteful in terms of space usage.

# Illinois University College of Business



Lockers were designed for MBA students but were expanded to all students.

# **COMPUTER STATIONS**

## **New Program**

Twenty-five Walk-up computer stations: 20 Sq Ft/each | 1,84 m2/each; capacity: 1 people

#### Kiosks:

There should be kiosks for walk-up computer use located throughout the building.

These screens or stations have the following features:

Easily accessible mainly to students, but also to faculty and staff, and not right at the entrance of the building.

Placed and housed in a way that maximizes screen privacy.

# **COMPUTER STATIONS**

# Jacobs Center - Kellogg School of Management Ross School of Business



Two Walk-up computer stations areas:

. 190,22 Sq Ft | 17,50 m2 . 118,80 Sq Ft | 10,93 m2



#### **Harvard Business School**



### The Wharton School



These phone booths are currently used for laptops. They will convert them into video-conferencing booths.

# **COMPUTER STATIONS**

# Chicago Booth School of Business



## Sloan School of Management Building E62

Building was still under construction at the time of the visit.

## The Fuqua School of Business



- 1. **Computer Lab** (Keller Center East): 3.105 Sq Ft | 285,66 m2, 40x80 Ft | 12,19x24,38 m, 70 carrels
- 2. **Student Communications** (Fox Student Center), Copier, Fax, Computing, ATM: 1.481 Sq Ft | 136,25 m2

## Illinois University College of Business

No information.

Pictures 2 and 4: "The Fuqua School of Business Reservable Space Attributes", pp.52, 84.

# **GYMNASIUM**

## **New Program**

There is no gymnasium.

Jacobs Center - Kellogg School of Management: There is no gymnasium.

**The Wharton School:** There is no gymnasium.

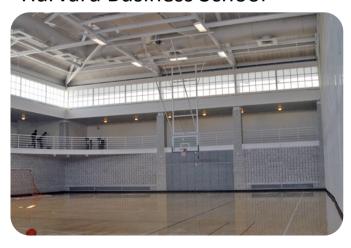
**Chicago Booth School of Business:** There is no gymnasium.

Sloan School of Management Building E62: There is no gymnasium.

The Fuqua School of Business: There is no gymnasium.

Illinois University College of Business: There is no gymnasium.

### **Harvard Business School**



### **Ross School of Business**



The Ross School of Business building houses **one** fitness center furnished with free weights, strength machines, and aerobic machines, as well areas for stretching. Lockers, showers, and towel service are available. GYMN – 6.400 Sq Ft | 588,80 m2 (extra 600 Sq Ft | 55,20 m2 with lockers)

# **DETAILS**

## **New Program**

#### Accessibility

The design should incorporate the principals of universal design into all aspects of the building furniture, fixtures and equipment.

The design should include separate baskets for waste and for recyclable materials. It is important to make sure that these baskets are large enough. These baskets should be built into the walls or cabinets but be easily removable. They should also be located along the walls in the circulation area.

#### Signage

The building should include dedicated wall space designed to post announcements, posters and other materials.

There should be legible signage to help users orient themselves inside the building.

# **DETAILS**

Jacobs Center - Kellogg School of Management









- 1. Art collection.
- 2. Decorative glass.
- 3. Flags representing student nationalities variety.
- 4. Kellogg Insight poster.

# **Ross School of Business**







Curiosities: "(...) the Ross School has acquired an art collection (...). Many of these pieces are placed along routes through which members of our community pass every day".

http://www.bus.umich.edu/

### Harvard Business School







- 1. Built-in waste and recycle baskets.
- 2. Built-in files.
- 3. Built-in waste and recycle baskets.

### The Wharton School







- 1. Placards with donor names.
- 2. Classroom signage.
- 3. Skylight interior view.

# **DETAILS**

## Chicago Booth School of Business







- 1. Built-in waste and recycle baskets.
- 2. Old mailboxes.
- 3. Poster.

# Sloan School of Management Building E62

Building was still under construction at the time of the visit.

## The Fuqua School of Business









- 1. Monitors telling about the donors.
- 2. Student Clubs Posters.
- 3. Drinking fountains.
- 4. Flags representing student nationalities variety.

# Illinois University College of Business









- 1. Drinking fountain.
- 2. Virtual bulletin boards.
- 3. Coat racks.
- 4. Bike shower.

### Sumário das recomendações compiladas das entrevistas

- 1. Garantir que o edifício satisfaça para além das necessidades funcionais. Um edifício deve incorporar a filosofia da Universidade e criar um sentido de comunidade.
- 2. Ter consciência do simbolismo: Que imagem é que o novo edifício transmite? Kellogg é conhecida pela cooperação e colaboração. O edifício transmite esses valores?
- 3. Projectar o edifício para ser energeticamente eficiente e amigo do ambiente
- 3.1 A fim de implementar a melhor solução projectual é importante decidir, no início do projecto, o nível de certificação LEED que se prevê para o edifício. Abaixo, listamos algumas das questões que precisam de ser consideradas:
- 3.2 Materiais
- 3.3 Eliminação de resíduos
- 3.4 Reciclagem
- 3.5 Células fotovoltaicas / Painéis solares / Energia geotérmica
- 3.6 Obscurecimento / Iluminação solar
- 3.7 Orientação / Vistas
- 3.8 Cobertura verde
- 3.9 Materiais naturais, em vez de artificiais.
- 3.10 Fácil manutenção. Não aos produtos industriais (químicos)
- 3.11 Boa iluminação natural / ventilação
- 3.12 Baixa energia incorporada (quantidade de energia necessária para o fabrico e fornecimento até ao momento de utilização de um produto, material ou serviço)
- 4. A área de entrada do edifício tem de ser suficientemente larga para albergar grupos de pessoas.
- 5. Os átrios que melhor funcionam têm vários níveis e espaços diferenciados.
- 6. É importante ter um espaço no edifício onde possam ocorrer eventos sem perturbar as salas de aula.
- 7. A Grande Sala Multi-funções deve estar próxima de uma área de descompressão, para que seja possível sair da sala rapidamente sem interferir com actividades no resto do edifício.
- 8. É importante criar áreas dedicadas às zonas de encontro. Caso contrário, os alunos encontrar-se-ão nas salas de aula e como resultado as lições poderão ser interrompidas.
- 9. É importante alcançar um consenso sobre o tipo de salas de aula a construir no novo edifício. Construir um protótipo de sala de aula pode ser muito útil para obter comentários dos docentes.
- 10. Assegurar a eficiência entre as áreas funcionais interdependentes.
- 11. A Kellogg deve contratar um engenheiro de Acústica para ajudar com o design dos espaços como a Grande Sala Polivalente, os "Research Behavioral Labs", os "Research Behavioral Lab Breakout Rooms", as Salas de Aula. As Universidades que recorreram a um engenheiro de Acústica durante o projecto alcançaram uma qualidade sonora superior.

### Sumário das recomendações compiladas das entrevistas

- 12. Muitas universidades personalizaram o mobiliário de modo a adaptá-lo a diferentes áreas. Esta abordagem pode economizar espaço pela melhoria da eficiência da utilização dos espaços.
- 13. Evitar uma área exclusivamente destinada a cacifos, optando pela colocação dos cacifos ao longo das circulações.
- 14. Serviço de refeições
- 14.1 A satisfação dos alunos é maior nas universidades que oferecem mais escolhas em termos de tipo de refeição e dieta.
- 14.2 Celebrar contrato a longo prazo com um único fornecedor é geralmente visto como um erro. Criar concorrência entre os fornecedores pode melhorar o serviço e reduzir os custos.
- 14.3 É importante ter várias áreas de restauração em vez de só uma, para que algumas áreas possam ser encerradas quando não estão a ser utilizadas.
- 15. Espaços de Informação para Alunos / Grupos / Actividades
- 16. Tecnologia
- 16.1 É importante ter uma sala de controlo.
- 16.2 A infra-estrutura deve ser flexível para possibilitar o desenvolvimento técnico. Evitar tecnologias que requerem infra-estrutura personalizada pesada.
- 16.3 Utilizar sinais digitais de mídia para exibir sinais HD nas salas de aula.
- 16.4 O número de tomadas eléctricas parece sempre insuficiente. Certificar que existem tomadas suficientes.
- 16.5 Todos os espaços de reunião têm de ter energia eléctrica.
- 16.6 Ligações sem fios devem ter uma boa cobertura em todo o edifício.
- 16.7 Permitir que os docentes programem o ambiente da aula (ajuste do pódio, luzes, fontes de vídeo, câmaras, etc.). Quando entrarem numa ou noutra sala, eles terão as predefinições salvas, e assim podem accionar o botão predefinido no painel sensível ao toque e tudo será reposto.
- 17. Manutenção: A Kellogg precisa de ter a sua própria equipa para fazer a manutenção do edifício a curto e longo prazo.
- 18. A supervisão da construção deve ser centralizada. A Kellogg precisa de ter alguém que represente os seus interesses desde o primeiro dia.

