Introduction/Argument
Architects finishing college are not usually prepared to enter the job market properly thus giving them a smaller chance to succeed immediately. Ideally, graduating students would be able to showcase their work to professionals and faculty members prior to receiving their degree.

The new institute gives architecture graduates exposure to professionals visiting to hire new employees or ones working at the school. The graduates are giving themselves a better chance for their work to be seen and discussed by practicing architects.
Architecture is the seventh most unemployable major as of August 2011

- Exactly **10.6%** of the graduates with architecture degrees are unemployed

Architecture was the hardest hit occupation in 2009

- Job losses jumped **17.8%** in the first three quarters

Unemployment in the Architecture and Engineer sectors of the Bureau of Labor Statistics was **5.9%** as of October 2010.

- Typically the unemployment number for this sector is under 4%

- The smaller architecture categories of the sector are at about **13%** unemployment.

**American Institute of Architects chief economist:**

- As of July 2008, 221,000 people were employed at architecture firms

- As of July 2010, 167,000 people were employed at architecture firms, a **24%** drop
The new architectural entrepreneur institute will feature qualities from a traditional school, an office space, and individual home studios. This will create a remarkable learning environment for various levels of students and aspiring professionals. It’s a hybrid school designed with the intention of satisfying three diverse building types. The result will give way to a prototype that fosters developing the careers of architects before and after they graduate.

<table>
<thead>
<tr>
<th>Building Types</th>
<th>Qualities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School:</strong></td>
<td>Inviting, Important, Beautiful, Connected, Engaging</td>
</tr>
<tr>
<td><strong>Studio:</strong></td>
<td>Creative, Dynamic, Comfortable, Inspiring, Airy</td>
</tr>
<tr>
<td><strong>Office:</strong></td>
<td>Productive, Efficient, Collaborative, Interactive</td>
</tr>
</tbody>
</table>

= Hybrid Architectural Studio
What makes designing a new building complicated yet attainable are parameters. The new institute for IIT’s architecture department blends professional practice with academia. The design requirements are quite similar to a regular architecture school but with a new added dimension. The institute will stress technology and innovation throughout the decision making process. Studying the relationships between the visiting architects, graduates and current students will be essential.
Programming
Knowlton Hall is a full architecture school at a large university which can give insight into how much amenity and studio space a larger school utilizes. All of the individual spaces that were calculated in the spreadsheet to the left were estimated based on the overall square footage of each floor. The gross and net areas were unclear in the references that were used to find this data. These numbers will directly influence the sizing of the initial programming and planning of the spaces in the building.

The numbers below are directly generated from the IIT Architecture Office. The percentages were used to put together the initial student body and faculty numbers for the architectural entrepreneur school. The school should be similar in size to IIT right now but with more of an emphasis on the more advanced students. It was difficult to utilize the IIT population in relation to volumes and areas because the Arch. school is split into three separate buildings.

**School Demographics**

**Space Program Precedents**

**Knowlton Hall**

- Site: Northwest Entrance to the main campus
- Area: 1.91 acres
- Volume: 1.91 acres
- Program: 175,386 gross square feet
- Program: 196 square feet/person
- Program: 3,046,550 cubic feet
- Program: 3,102 cubic feet/person
- Program: 615 students in architecture
- Program: 180 students in landscape architecture
- Program: 96 students in city and regional planning
- Program: 74 faculty members, with adjuncts and visitors
- Program: 17 staff/administration members

**Gender:**
- 58% Male
- 42% Female

**Nationality:**
- 71% domestic
- 29% international

**Program:**
- 70% (598) B. Arch students
- 12% (101) M. Arch, Advanced standing students
- 8% (71) M. Arch., Full program students
- 3% (27) M.S. Arch students
- 3% (23) PhD students
- 2% (21) MLA students
- 1% (10) M.IPD students
- <1% (3) NDG students

- 42 Full-time Faculty Members, 72 Adjunct, and 1 Visiting
- 17 Administration and Staff
The elements that are “dispersed throughout” along with the outdoor space, are seen multiple times in the diagram to the left. Each other programmatic element is connected just once. By developing ideas about how the program fits together, it becomes simpler to visualize circulation and relationships to the exterior.

These programmatic elements in this project are all important but some spaces are more central to the institute than others. The diagram below shows ways to start arranging the building based on functionality and location. The goal is to find relationships between the elements and thus begin placing them accordingly.
The diagrams are potential layouts for the shared studio spaces. The idea is to find a way to integrate the different levels of students and graduates. Each layout tests out different forms and ideas of how to make architecture studios more productive. The idea is to have both collaborative and individual spaces of work mixed together for the students.
Program spaces are grouped together into categories: core, supplemental, amenity, and ecological. The spaces are listed as squares or rectangles and sized based on the area they will consume. These are just approximations using the precedent study and analysis from past experience.

These diagrams will help organize the building vertically and allow for the program to fit together, around each other. The program was situated based on similarities and user groups. The shape of the building is undetermined and a generic one was proposed to make the diagram clearer and more helpful for organization. Programming in section/elevation helps to think about the height and size of each space in and can generate new design ideas.
The proposed program on the left is taken from the data and demographics acquired from IIT. The spatial elements are estimated after studying some other architectural schools, in particular Knowlton Hall.

The table on the right contains the actual numbers from the completed project. Some of the larger areas like the studio spaces and collaborative areas are calculated collectively.

### Program Strategy

#### Initial and Final Numbers

- **Site:** 35th and Dearborn St.
  - 3 acres of usable space
- **Area:** 123,350 gross square feet
  - Over 200 square feet/person
- **Program:** All of these following numbers are estimates considering these numbers will be flexible for the first decade that the institute will be open.
  - 90 M. Arch students
  - 25 M.S. Arch students
  - 25 PhD students
  - 60 Graduated students
  - 25 Faculty Members with Adjunct and Visiting
  - 8 Administration and Staff
Site Analysis
The Figure/Ground map of the IIT campus displays that there is not much of a variety between the building geometries. The new institute will draw on the traditions of Mies but needs to push the envelope more, like the McCormick Tribune Campus Center. The building should catch the eyes of visitors and students as they explore the campus and Bronzeville.

In addition to being adjacent to transit systems, the site must have a complex pedestrian network. The informal paths used as shortcuts by frequent users will also become quite important. These shortcuts are usually diagonal paths cutting across patches of dirt and grass. The diagonals interspersed with formal sidewalks are similar to the pedestrian networks set up on college campuses and large parks.

Informal paths emerge throughout cities when snow covers the ground for long periods of time (above). Harvard Yard and surrounding campus map showing the use of diagonals and "quickest route" paths to shape a layout (right).
Galvin Library

Crown Hall
current main architecture building

M&M Building
woodshop

3410 State Street
extra arch. building

IIT Campus
institutional buildings

U.S. Cellular Field
Chicago White Sox baseball stadium

Housing

State Street Village

Greek Housing

De La Salle Institute

Retail

Chicago Police Department

Benjamin W. Raymond School

Adult Education Center and Library
Precedents
The Crate House is one eight foot cube house for an occupant and he/she can access the basics of a household in four plywood crates: bathroom, bedroom, kitchen, and living room. The essential components of each space or room are present in this wooden enclosure. The idea is to ask what each space really is and to try and figure out which objects are functional and important for the space. The conventional apartment has locked the user into specific patterns of behavior even when it’s this simple.

Architect: Allan Wexler

Location: Can be situated anywhere based on the condensed properties but is ideal for a home living environment.

Date: 1991
The Media Lab together with I.M. Pei’s Weisner Building serves as a complex designed to showcase new concepts in technology, research, and communication systems. The goal there is to ignite a new energy and connectivity within the two-building complex, and then extend this energy beyond the walls to the sponsors and to the world at large. The facility emulates the student’s and faculty’s ideals: emerging technologies on everyday life which looks to transform our notion of human capabilities. The building equipped with cutting edge workspace and tools overlooks the Charles River and the Boston skyline.

**Architect:** Maki and Associates

**Location:** Cambridge, Massachusetts

**Date:** 2009
The buildings were constructed to establish an artist colony by the founders Judge Lambert Tree and Anne Tree. He created a legal trust so that only artist could live in the studios until 1959 when the complex was bought. The original building is located on Ohio and State Street and the annexes are on Ontario and State Street. The main goal was for the artists to be comfortable in their space and not overwhelmed. The buildings' large windows, picturesque details, and distinctive interior courtyard made it necessary that people who appreciate beautiful facilities live there and bask in their surroundings.

Creator: Judge Lambert Tree and wife Anne Tree

Architect: Parfitt Brothers (original) and Hill and Woltersdorf (annexes)

Location: Chicago, IL

Date: 1894 and 1912-3
Concept and Process
The innovative institute blends the professionalism of the city with the teachings of a studio-based architecture school in the neighborhood of Bronzeville. Thus, this helps the students become exposed to the real world practice, attaining professional principles and experience in the field.

The new institute becomes an incubator for learning and producing great architecture. It combines individuals at various stages of their professional and educational careers. Graduate students, graduates, and working architects share space and together create a unique learning environment.

How to make these spaces successful?
- Direct relationships between programs in plan
- Tying together the vertical portions of the building
- Utilizing effective components from the studio in the collaborative spaces.
- Determining how to use circulation to shape the space.
- Being able to define the edges between the collaborative areas and their adjacent program space
- Put the spaces on display to the users and the public.

What's the In-Between space?
- The collaboration fills the void
- Mixture of programmatic elements
- Connections between different practices
- Define the duality of these interstitial spaces
- Relating to the individual space
- Make these spaces the focal points of the institute.
Initial plan schemes(left) all emphasis some type of courtyard space and the interaction between studios and collaboration space. The first sketches of large open shared spaces are seen here and follow the project until design completion.

The next set of sketches have stricter boundaries but have been developed and work off process study models seen on the following page. The institute has been split into two buildings but are working to make a connection across the courtyard space. The tower portions have been allocated to the front or northern portion of the project to generate a powerful street presence.
Modeling with only vertical planes allowed for discussion and conceptualization of the circulation and the formation of the spaces. The models third dimension made it simpler to visualize where it was possible to break the grid and how often. Although small, the complexity of these models explains the program and how the spaces are broken down. The overlapping planes help to see the interesting sectional details and the areas that demand more work.

In terms of the site design approach, the building utilizes both plots of land and closes Federal street to cars. The street then converts to an exterior courtyard space and the primary entry point to the institute. There is also another point of entry along Dearborn Street for users coming from the East.
The color-coded sections revealed that there was some unused space between the studio/collaboration level and the first level. These areas are seen in white and unprogrammed to this point. These spaces later became mezzanine areas for the students to lounge and study individually. They also made room for some secondary space for the offices of the retail establishments on the first level.
The most significant of the shared spaces are the various flexible collaborative areas. These collaborative areas are defined by the spaces around them therefore becoming the space in between. They are also connections between practices, studios, and individuals.

The third floor (left) studios along the exterior shape the interior collaboration space in the center. The first floor (bottom left) also houses a large collaborative area which is enclosed by retail, administration and classroom at the south. The exterior courtyard (plan below) spilling into the first floor collaborative space is also allotted for shared space and will be a defining point in the building.
The elevations were configured deep into the design process and definitely drew from parts of the concept. The goal was to use as many composite materials as possible and really stick with the idea of hybridity. The following page displays a few of the material choices that were contemplated and pursued as the material palette was chosen.

A facade panel system composed of glass and three different colored aluminum panels really bring the building to life. Precast concrete is also used to complement the panels and tie the exterior to the interior.
Final Design
Longitudinal Section Facing North: 1/25” = 1’-0”
References


Bilello, Joseph A., and Barry Yatt. Design/practice Education: Issues at the Intersection. Vol. 2. Washington, D.C.: American Institute of Architects, 1994. Print. This source is more important for looking into architecture education and how the studio is taught is different schools. It will be important to learn about the studio culture outside of my personal experiences and this handbook should give me some insight into this.


“History of Tree Studios and Medina Temple.” The Ivy Room at Tree Studios, Chicago. Web. 08 Nov. 2011.


“Massachusetts Institute of Technology, Media Arts and Sciences Building.” Maki and Associates 2009. Web. 06 Nov. 2011. The head architect’s website gives more of an in-depth explanation of the project especially in the pictures than the Media Lab website. The building is a state of the art facility and combines several creative departments into one place. This precedent is important because my project integrates collaborative and individual space together.


Preuss, Deborah Hartmann. “Designing Collaborative Spaces for Productivity.” InfoQ. 24 July 2007. Web. 16 Sept. 2011. It is important to understand how to increase productivity or at least know what plays into production in a workspace. This may be more about a team collaboration space but a lot can be learned from the analysis. The architecture studio could make use of designing for the team along with the individual.


Scogin, Mack, Merrill Elam, Todd Gannon, Margaret Fletcher, and Teresa Ball. Mack Scogin Merrill Elam—Knowlton Hall. New York: Princeton Architectural, 2005. Print. This book will be a main source to investigate the design behind a modern architectural school. The architects Mack Scogin and Merrill Elam work with the editors to document every phase of the building process. The book is filled with diagrams and details to support the ideas behind the building.


“What Is Loosecubes?” Loosecubes.com. 2010. Web. 31 Oct. 2011. Most of the important information about this website is located in the description written in the precedent study detail section. The ideas are more important than the actual physical spaces in this example.