

# Architecture 130A: Basic Design and Research for Architectural Engineers

## Pennsylvania State University, Spring Semester 2009

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## The Library as an Exhibition Space

### *Introduction*

The major role of academic libraries is providing reliable resources for the research facilities of the university while supporting the teaching activity with its archive. On the other hand, besides being a “*repository of books*”, libraries have a significant symbolic presence in the university or college campuses. This presence can be read through the architectural form and/or the location of the library. Most of the universities support smaller branch libraries in departments or individual colleges but the main library is always kept as a “*headquarter*” for all research and archival activities.

The emergence of the digital media and the Internet caused profound transformations in the functionality of academic libraries. These transformations can be observed in the content, research activities / services, archiving / search methods and use patterns. The shift is from a repository of books to a gathering and study place for students and an information center for the community. Since the information is not limited by physical library boundaries anymore, users can reach to library resources from anywhere anytime. This leads to the reconsideration of the spatial organization for a library. The conventional schema of book stacks needs reorganization to address new issues such as computer and digital media locations, how to view these new resources, circulation patterns, light / material choices and structural alterations.

In this context, one of the proposals to redefine the role of an academic library is highlighting the tactile and artifact properties of books; instead of competing with the infinite dimensions of digital archives / resources. ***In this project you are asked to explore this option by designing a branch library / exhibition space for the rare books collection of the Pennsylvania State University.***

Scrolls, manuscripts and books are used throughout the history for recording and retrieving information. There are various reasons for a book to become a rare book such as hand written

documents that belong to a time before printing technologies, first editions of signature books, signed copies or books that are used in certain events and by certain people. On the other hand, new technologies such as e-book readers and the ease of online publishing push both readers and writers to think about other dimensions of conventional book production. It is a process that consumes certain amount world's resources and once they complete the usable part of their lifecycle, recycling is not guaranteed. At this point, we need to reconsider issues such as the experience of reading a book, owning a book, consuming a book (why do people re-read certain books?), appreciating a book as an artifact, using it as an evidence, learning from a book, dimensions of a book and exhibiting a book.

### **Approach**

For this project you are expected to explore the design problem from two aspects:

First aspect is to identify the role of technology in a library. As it is discussed above, technology is forcing libraries to alter their functionality. In this context, you need to address how can technology be utilized during the design/construction/occupation processes to enhance the experience of users? We are all aware that emerging technologies, such as sensors and tracking devices can be used to automate construction procedures and to optimize/control performance parameters. However, same tools have potentials for enriching the users' experience in "interactive spaces". This issue is specifically important for the symbolic value of this building in the Penn State campus as an alternative place for books. You need to develop your own interpretation for *smart buildings, interactive spaces, intelligent building components / materials*.

The second aspect of the problem is design for deconstruction (DfD). Deconstruction is defined as the process of selectively dismantling a building or parts of a building in order to salvage the materials for reuse or recycle. In simple terms it is the reverse construction but the process shows differences according to condition and location of the building and building materials. In comparison to demolition, which generates waste for landfill, deconstruction produces materials that can be used again or remanufactured into higher-value goods. DfD initiative aims to provide solutions for the reusability of building materials. This aspect is critical during the design of joint details. For example, connectors like glues or nails withhold the reusability of building materials. You are expected to explore DfD in your building and detail design phases.

### **Studio organization**

The studio is on Mondays, Wednesdays and Fridays. You are expected to complete most of your work during the studio time. I will be in the studio twice a week on Wednesdays and Fridays or on Mondays and Wednesdays depending on the studio dynamics. On days that I am not in the studio, you will be given small tasks that are going to be completed during the studio time and submit them at the end. We will organize this with the studio TA Hamed Aali. 20 percent of your grade comes from these tasks.

In this project you will be working in groups of three. Although the design process sounds like it requires individual focus and contemplation, the real world practice is different than that. In this class you will practice the fine tuning of group work and collaboration. In order to succeed you need to identify responsibilities carefully, take initiatives and make use of methods such as "brainstorming" to utilize the team creativity. (Check this link for "Tips for Working Successfully in a Group" <http://www.alice.org/Randy/teams.htm>)

### ***Project development layout***

The project is going to be completed in 2 phases. In the first phase you will be working on site analysis, initial concept development, schematic design, building layout, site organization, form / space exploration and technical research. This phase will count the 30 percent of your grade. At the end of the first phase there is going to be a mid-review session and you will be asked to make a formal presentation.

After generating the initial layout of the building the second phase will be focused on further developing the design through structural refinements, material choices and specific detail designs. This phase will count 25 percent of your grade. In this phase, you are expected to modify the design that you developed in the first phase, according to your structural, material and detail alterations. This phase will culminate with the final presentations at the end of the semester. The final presentation will count for the 25 percent of your grade.

#### *Presentation Requirements:*

Site plan with relative context and building drawn as roof plan with shadows	1/16" = 1'-0"
Plans of all floors with context	1/8" = 1'-0"
Sections – at least one longitudinal, one cross-section, as site sections	1/8" = 1'-0"
Elevations – (4) showing relationship to site	1/8" = 1'-0"
Building model	1/8" = 1'-0"
Details	TBD
Interior and exterior 3D drawings to communicate spatial intentions of building (no scale)	
Concept diagrams, sketches, and drawings as required to fully communicate project design and intention (no scale)	

#### *Evaluation*

Your performance is going to be evaluated according to your *process*, *project* and *presentation*.

- The *process* is going to be evaluated through your involvement in the studio, production of alternatives, completion of necessary research and joining to discussions.
- Your project is going to be evaluated according to steps defined in phase 1 and phase 2. This evaluation has two methods: verification and validation. Verification is a binary evaluation such as a checklist of requirements. Validation requires checking the project against overall design goals such as, now that the building resembles a blooming flower, is this a desirable and liked aesthetic.
- Your presentation is going to be evaluated according to your ability to convey your ideas, research outcome and project properties clearly through the use of an appropriate graphical language.

**Tentative Program:**

Main exhibition space	1200 ft <sup>2</sup>
Smaller exhibition rooms	600 ft <sup>2</sup> (total)
Permanent collection storage	1200 ft <sup>2</sup>
Main reading and exploration room	800 ft <sup>2</sup>
Group study rooms (2)	350 ft <sup>2</sup> (total)
Individual study rooms (4)	100 ft <sup>2</sup> (total)
Conference room	1000 ft <sup>2</sup>
Administration	300 ft <sup>2</sup>
Café	350 ft <sup>2</sup>
Restrooms	200 ft <sup>2</sup>
Mechanical / utility room	200 ft <sup>2</sup>

**Site location**

