Pratt Institute School of Architecture
Undergraduate Architecture Program
Course Syllabus

	Arch 101	Design
Fall 2005		

Class Credits:	5			
Type of Course:	Required Studio			
Class Meetings:	MTH 2PM-6PM			
Prerequisites:	Admission to Pratt Institute, Undergraduate Architecture Program			
Enrollment Cap:	15			
Section /Location:	Arch 101.01	Marc Schaut	MTH 2pm-6pm	HHS 515
	Arch 101.02	Kari Anderson	MTH 2pm-6pm	HHS 515
	Arch 101.03	Eric Wong	MTH 2pm-6pm	HHS 515
	Arch 101.04	Richard Sarrach	MTH 2pm-6pm	HHS 515
	Arch 101.05	Jonas Coersmeier	MTH 2pm-6pm	HHS 415
	Arch 101.06	Jeremy Carvalho	MTH 2pm-6pm	HHS 415
	Arch 101.07	Dan Silver	MTH 2pm-6pm	HHS 415
	Arch 101.08	Erich Schoenenberger	MTH 2pm-6pm	HHS 413
	Arch 101.09	Cathy Jones	MTH 2pm-6pm	HHS 412
	Arch 101.10	Yael Erel	MTH 2pm-6pm	HHC 331
	Arch 101.11	Soo-in Yang	MTH 2pm-6pm	HHC 331

Course Overview
This course will introduce students to fundamental design principles through a series of related tectonic projects. Each project focuses on a specific aspect of the conceptual development of architectural form and space through constructive operations in plan, section, elevation and volume.

Project Descriptions
3 projects will measure the performance of a joint within structural, temporal and spatial dimensions.

1
A Word Wood Joint, establishes a language of construction.
A word play is embodied within the performance of a detail.

2
A Volume of Jointed Tales, recalls the tectonic alliances established within the space of a cube.
A ritual of transformation reconfigures the status of meaning and memory.

3
Out of Joint, dislocates the assembly.
Anagrammatic possibilities emerge within an expanded field of play.

Learning Objectives
This course fulfills the following NAAB requirements:

2. Graphic Skills: Utilize appropriate representational media, including computer technology, to examine and convey the development of a spatial idea and its translation into an architectural statement.
16. Formal Ordering Systems: Understanding of the fundamentals of visual perception and the principles and systems of order that inform two and three dimensional design, architectural composition, and urban design.

Additional pedagogical objectives include:

- Understand that a thoughtful architectural proposal is based on a coherent design process.
- Engage in rigorous research and analysis that incorporates knowledge from a variety of institutional resources to support an interdisciplinary design approach.
- Translate concepts of gradually increasing sophistication into meaningful spatial design.
- Explore and evaluate concepts in a creative and critical manner with respect to their relevance in generating intelligent, inventive design solutions.
- Exercise basic organizational, spatial, structural and constructional principles to conceive and develop interior and exterior spaces, architectural elements and components.
- Employ principles of structural behavior in withstanding gravity and lateral forces
- Select, configure and detail parts of the design proposal to assess performance and aptitude.
- Recognize the spatial implications of a design proposal at varying scales and in different contexts.
- Speak and write effectively about each project and its design process.
- Utilize appropriate representational media, to examine and convey the development of a spatial idea and its translation into an architectural statement.
- Function in a collaborative environment, assuming varying roles as required to maximize the individual's contribution to the group.

Course Requirements

- Regular attendance in class and lectures: As per Institute rules, (3) three unexcused absences will result in an automatic failure of the course. Developmental drawings, models and supporting documentation are required for each class. Attendance and participation in midterm and final presentations are required. Successful completion of midterm and final project requirements and reviews is required and no make-up or postponed project submissions will be accepted except in the case of unforeseen circumstances and emergencies. Excused absences and project delays must be officially cleared, by professor, in advance, in order to be considered valid.
- Working in the studio is Mandatory.
- Timely completion and presentation of three projects, including written project descriptions, scaled and measured drawings, such as plans, sections, elevations, and models as assigned for each project by studio instructor.
- Research and analysis of pertinent scientific, artistic and architectural precedents in response to each project's requirements to enrich and ascertain a coherent conceptual, schematic and spatial investigation.

Cultural Model

- This section should be focused and framed by the specific instructors; i.e. each instructor would introduce a cultural knowledge or 'topic' in the studio from which a series of researches, readings, studies, would introduce the student to a specific 'model of thought'. Some examples of a cultural knowledge could include, literary models, scientific models, mathematical models, language models, philosophical models, and musical models.

Bibliography

Selected reading material is to be provided by all Instructors to their respective studio class as required.

Project 1 - Wood Word Joint

- Wassily Kandinsky, Point and Line to Plane (New York: Dover Publications, 1979)
- Paul Klee, Pedagogical Sketchbook (Farrar, Straus, & Giroux, 1968)
- Ben Van Berkel editor, Any 23- Diagram Work (Anyone Corp, 1998)
- Frascari Marco, The Tell the Tale Detail (1984)

Project 2 - Volume of Jointed Tales

- Jorge Luis Borges, Labyrinths The Library of Babel (New Directions Publishing, 1968)

Project 3 - Out of Joint

- Gaston Bachelard, The Poetics of Space (Boston: Beacon Press, 1994)

PROJECT #1 Wood Word Joint

Project Description
A Word Wood Joint establishes a language of construction that is both concrete and abstract.
The joints are examined for structural, tectonic, and conceptual clarity.
A word play is embodied in de tail.

> A dictionary begins when it no longer gives the meaning of words, but their jobs.
> -George Bataille

> A building is not an end in itself; it frames, articulates, structures, gives significance, relates, separates and unites, facilitates and prohibits. Consequently, basic architectural experiences have a verb form rather than being nouns.
> -Juhani Pallasmaa, The Eyes of the Skin

> Richard Serra's work seems to inhabit the realm of the transitive verb, with its image of activity and effect…Contemplating that chain of transitive verbs, each one specifying a particular action to be performed on an unspecified material, one senses the conceptual distance that separates this from what one would normally expect to find in a sculptors' notebook. In place of an inventory of forms, Serra has substituted a list of behavioral attitudes. Yet one realizes that those verbs are themselves the generators of art forms: they are like machines which, when set into motion, are capable of constructing a work.
> -Rosalind Krauss, Passages in Modern Sculpture

Research Language of construction/ Construction of language

- Research the Selected Words (Definition/ Etymology)
- Research Wood Joinery (as a constructional precedent model)

Refer to examples of Japanese and Arts and Crafts joinery.

End /Edge Joint	-Splice
	-Finger
	-Spine
Angle/ Miter/ Lap joint	-Dado
	-Rabbet
	-Halved
	-Cross
Dovetail/ Mortise	-Open/Blind Mortise
	-Keyed

- Read the Tell the Tale Detail by Marco Frascari
- Research Cultural Model (as assigned per studio instructor)
  This section should be focused and framed by the specific instructors; i.e. each instructor would introduce a cultural knowledge or 'topic' in the studio from which a series of researches, readings, studies, would introduce the student to a specific 'model of thought'. Some examples of a cultural knowledge could include, literary models, scientific models, mathematical models, language models, philosophical models, and musical models.

Means

- Cross words: combine qualities and activities (words are influenced by cultural model)

Quality	Activity
shy	locking
empty	nesting
light	changing

- Diagram Qualities/ Activities as combinations
- Translate the combinations as material joints
- Measure/ Modulate all components (example ¼" module)
- Recombine with other joints (double joint)

Materials

- Paper and Foam (study models)
- Basswood (final joints)

Finish Options:

1. The wood may be left unfinished
2. Clear varnish, and clear laquer on all exposed surfaces is acceptable
3. Paint, nor any other material is permissible in conjunction with the basswood

Issues

- Consider the material properties (type/ character)
- Consider the character of pieces joining (line, plane and volume)
- Consider the relationship of the characters (size, placement)
- Consider the lines of force exerted and their corresponding effects (primary, secondary, tertiary)
- Consider the detail as an instrument of clarification (tectonic vs atectonic)

Tectonic Rules

- Glue may be used to build up custom sections that remain permanently fixed
- Mechanical fasteners of any kind may not be used
- Any one joint is limited in size to an implicit boundary of 9" x 9"
- The length of any vector element may not be less than 2".
- All elements will be derived from straight lines and ruled surfaces
- Wood dowels may be used only in the preparation of permanently adhering pieces together. Dowels are not permitted as a tectonic element
- (3) Vector lines (x, y, and z) will be the primary organizational axis along which the tectonic system For each joint is to be deployed
- Each joint is at full scale
- Each joint mediates an opposing position (open/ closed)
- Each joint is comprised of line, plane and volume
- Within any one joint, one line of force may be at an oblique angle of 5, 45, 30 or 60
- Any assembled joint must pass a shake test
- Maximize surface contact to secure joint

Requirements

Each studio instructor assigns a specific number of sketches, drawings, photographs and models. These investigative methods serve as tools to explore possible spatial propositions and allow for an educated assessment of the proposal. Emphasis in the evaluation is given to the process of the projects' development. A series of drawings and models demonstrates and clarifies the advancement of an initial idea into a spatial proposal.

- All drawings are to be either pencil on vellum or ink on mylar.
- All drawings are to be either produced as an 18"sq or 24"sq series.
- Drawings that require more surface area extend the 'module of the square' (i.e. 18" x 36", 24" x 48")
- Sketches and preliminary drawings as required, save all your previous work
- Assembly diagrams
- Plans and sections at full scale
- A series of axonometric projections
- A minimum of (1) time based drawing showing a series of transformational positions

Models

- Sketch models in various materials, save all your previous work
- 3 final joint models in basswood (minimum)
  Studies in distinct media
- Collage of paper cut-outs, Xeroxes and drawings describe conceptual thoughts

PROJECT #2 Volume of Jointed Tales

Project Description
A Volume of Jointed Tales recalls the tectonic alliances established within the space of a cube.
A ritual of transformation reconfigures the status of meaning and memory.
The assembly is puzzling.

> Questions relating to Subject and Object, to their distinction and their union, should be put in terms of time rather than space.
> -Henri Bergson, Matter and Memory

> Someone proposed a regressive method: To locate book A, consult first a book B which indicates A's position; to locate book B, consult first a book C, and so on to infinity…
> - Jorge Luis Borges, Labyrinths

> He said even the best thieves spend most of their time in the joint.
> -William Burroughs, Junkie

Research
- Read the Library of Babel in Labyrinths.
- Research Puzzle boxes
- Research Memory (Machines)
  > The history of collective memory can be divided into five periods: oral transmission, written transmission with tables or indices, simple file cards, mechanical writing and electronic sequencing.
  > -Andre Leroi-Gourhan
  > The utilization of a spoken and then a written language is a powerful extension of the storage capacity of our memory, which can thereby move beyond the limits of our bodies and locate itself either in others or in libraries.
  > -Henri Atlan
  > We know that in his work of Proust did not describe a life as it actually was, but one who he lived remembered a life as it…for the important thing for the remembering author is not what he experienced but the weaving of his memories, the Penelope work of recollection. Or should one call it, rather, the Penelope work of forgetting? Is not the involuntary recollection, Proust's memoir involontaire, much closer to forgetting than what is usually called memory? And is not the work of spontaneous recollection, in which remembrance is the woof and forgetting the wraf, a counterpart to Penelope's work rather than its likeness.
  > - Walter Benjamin, Illuminations
- Research Cultural Model (as assigned per studio instructor)

Means
- Recombine/ Rescale joints within a 9x 9 limit
- Diagram/ Draw out possible combinations (plan, section, axon)
  - Periphery/ Center
  - Open/ Closed
  - Internal/ External
- Measure/ Modulate all components (example ¼" module)
- Choreograph a curious sequence
  - Action/ Reaction
  - Reveal/ Conceal
  - Expectation/ Surprise
- Invest the knowledge of the joints within the assembly
- Construct the Jointed Tales as 9 x 9 volume
- Rotate the cube while you work

Materials
- Paper and foam (study models)
- Basswood (final model)

Issues

- How does joinery inform surface of volume?
  - Seem/ Seam
  - Surface/ Infrastructure
  - Surface/ Depth
- Consider the transgression of the boundary of the cube (Inside/Outside)
- Consider the position of the joints relative to each other and the limits of the cube (Periphery/ Center)
- Consider the lines of force with respect to the regulating lines of the cube (limit and prioritize)
- Consider Size and Proportion of elements (ex. scale shifts in Xeroxed collage)
- Consider the relationship of physical size/ size of move (smaller moves may trigger a larger series of moves)
- Consider the rhythm of the moves as datum.

Slide a on x
Slide c on x
    Rotate on x
Slide a on y
Slide c on y
    Rotate on y
Shear on z
Slide b on x

Volumetric Parameters

- Cube is at full scale
- Cube mediates opposing positions (open/ closed)
- Cube is composed of line, plane and volume
- Cube contains no more than 5% air in closed state

Tectonic Rules

- Glue may be used to build up custom sections that remain permanently fixed
- Mechanical fasteners of any kind may not be used
- Any one joint is limited in size to an implicit boundary of 9" x 9"
- The cross section of any one piece will not be less than ¾" in any direction
- (**3**) Vector lines (x, y, and z) will provide the primary organizational axis along which the tectonic system of the cube will be deployed
- One primary line of force may be at an oblique angle of 5, 45, 30 or 60
- In a composed state, the cube must remain intact as freely rotated in space

Requirements

- Drawings – pencil or pencil and ink on vellum or ink on Mylar, all drawings on same sized sheets.
- Sketches and preliminary drawings as required, save all your previous work
- Assembly diagrams
- **2** horizontal sections (plans), scale 1:1 of model scale
- **2** longitudinal and latitudinal sections, scale 1:1 of model scale
- **1** Speculative drawing – axonometric/ oblique drawing or collage using operative language

Models

- Sketch models in various materials, save all your previous work
- **1** final model in basswood

Studies in distinct media

- Photographic documentation of sketch and final model, including studies of assembly progress
- Collage of photographs, Xeroxes or scanned images and drawings describe conceptual thoughts
- Written script: 1/2 page in 10 point type

PROJECT #3 Out of Joint Space

Project Description
Out of Joint, dislocates the assembly.
Anagrammatic possibilities emerge within an expanded field of play.
The Solid state is aerated.

> In writing there are two principle functions" the first is information storage, which allows communication along time and space and provides with means of marking, memorizing, registering, (the second) while insuring the passage to the physical domain to examine in a different way, to rearrange, to rectify phrases and even isolate words.
> -Le Goff, History and Memory

> Now and in the past, most of the time the majority of people live by borrowed ideas and upon traditional accumulations, yet at every moment the fabric is being undone and a new one is woven to replace the old, where from time to time the whole pattern shakes and quivers, settling into new shapes and figures.
> -George Kubler, the Shape of Time

> The library is unlimited and cyclical. If an eternal traveler were to cross it in any direction, after centuries he would see that the same volumes were repeated in the same disorder (since thus repeated, would be an order: the Order). My solitude is gladdened by this elegant hope.
> -Jorge Luis Borges, Labyrinths

Research
- Reading (as assigned per studio instructor)
- Research Cultural Model (as assigned per studio instructor)

Means
- Adopt an Operative/ Interference system
- Transform cube
- Reposition elements
- Build Armature to support transformations

Materials
- Paper and foam (study models)
- Basswood (final)

Issues
- Consider the space in between disjointed elements
  - Figure / Ground
  - Implicit/ Explicit
- Consider the Armature as a greater framework (matrix) activating the cube
- Consider introducing a scale to the assembly (¼"=1'-0")

Tectonic Rules
- Aeration suggests a Lighter Framework

Requirements
Drawings – pencil or pencil and ink on vellum or ink on Mylar, all drawings on same sized sheets.
- Sketches and preliminary drawings as required, save all your previous work
- Diagrams of circulation and passage sequences
- **2** horizontal sections (plans), scale 1:1 of model scale
- **2** longitudinal and latitudinal sections, scale 1:1 of model scale
- **1** axonometric drawing: sectional or exploded

Models

- Sketch models in various materials, save all your previous work
- **1** final model of laminated basswood

Studies in distinct media

- Photographic documentation of sketch and final model, including studies of different lighting conditions as assigned by the studio instructor.
- Collage of photographs, Xeroxes or scanned images and drawings describe conceptual thoughts as assigned by the studio instructor.

- Written project description: 1/2 page in 10 point type

Semester Schedule

SEPTEMBER				
Week #1	8/29	Monday	First Class	
			Project #1	**Issued: Wood Word Joint**
				Introduction to Library; Research and Resources
	9/01	Thursday	In class review	
Week #2	9/05	Monday	Class cancelled	**Labor Day**
	9/08	Thursday	In class review	
Week #3	9/12	Monday	In class review	
	9/15	Thursday	Project #1 Due:	**FINAL REVIEW Wood Word Joint**
			Project #2	**Issued: Jointed Tales**
Week #4	9/19	Monday	Project #1 Due:	**FINAL REVIEW Wood Word Joint**
			Project #2	**Issued: Jointed Tales**
	9/22	Thursday	Film	**Ise Shrine (2pm in C035)**
Week #5	9/26	Monday	In class review	
	9/29	Thursday	In class review	
OCTOBER				
Week #6	10/03	Monday	In class review	**Columbus Day**
	10/06	Thursday	In class review	Preparation of project description
Week #7	10/10	Monday	In class review	
	10/13	Thursday	In class review	
Week #8	10/18	Monday	In class review	
	10/20	Thursday	In class review	
Week #9	10/24	Monday	Project #2 Due:	**FINAL REVIEW Jointed Tales**
			Project #3	**Issued: Out of Joint**
	10/27	Thursday	Project #2 Due:	**FINAL REVIEW Jointed Tales**
			Project #3	**Issued: Out of Joint**
NOVEMBER				
Week #10	10/31	Monday	In class review	
	11/03	Thursday	In class review	
Week #11	11/07	Monday	In class review	
	11/10	Thursday	In class review	
Week #12	11/14	Monday	In class review	
	11/17	Thursday	In class review	
Week #13	11/21	Monday	In class review	
	11/24	Thursday	Class cancelled	**Thanksgiving Day**
DECEMBER				
Week #14	11/28	Monday	In class review	
	12/01	Thursday	In class review	
Week #15	12/05	Monday	Project #3 Due:	**FINAL REVIEW Out of Joint**
	12/06	Tuesday	Project #3 Due:	**FINAL REVIEW Out of Joint**

Project #1 Review Schedule

Studio	Day	Time	Location
Dan Silver	Thursday 9/15	2-6	HHC 0
Erich Schoenenberger	Thursday 9/15	2-6	HHS 513
Cathy Jones	Thursday 9/15	2-6	HHS 2nd floor hall
Yael Erel	Thursday 9/15	2-6	HHS 3rd floor hall
Soo-in Yang	Thursday 9/15	2-6	HHS 4th floor hall
Marc Schaut	Thursday 9/15	2-6	HHS 5th floor hall
Kari Anderson	Monday 9/19	2-6	HHC 0
Eric Wong	Monday 9/19	2-6	HHS 2nd floor hall
Richard Sarrach	Monday 9/19	2-6	HHS 3rd floor hall
Jonas Coersmeier	Monday 9/19	2-6	HHS 4th floor hall
Jeremy Carvalho	Monday 9/19	2-6	HHS 5th floor hall

Project #2 Review Schedule

Studio	Day	Time	Location
Marc Schaut	Monday 10/24	2-6	HHC 0
Kari Anderson	Monday 10/24	2-6	HHS 513
Eric Wong	Monday 10/24	2-6	HHS 2nd floor hall
Richard Sarrach	Monday 10/24	2-6	HHS 3rd floor hall
Jonas Coersmeier	Monday 10/24	2-6	HHS 4th floor hall
Jeremy Carvalho	Monday 10/24	2-6	HHS 5th floor hall
Dan Silver	Thursday 10/27	2-6	HHC 0
Erich Schoenenberger	Thursday 10/27	2-6	HHS 2nd floor hall
Cathy Jones	Thursday 10/27	2-6	HHS 3rd floor hall
Yael Erel	Thursday 10/27	2-6	HHS 4th floor hall
Soo-in Yang	Thursday 10/27	2-6	HHS 5th floor hall

Project #3 Final Review Schedule

Studio	Day	Time	Location
Marc Schaut	Monday 12/05	all day	TBD
Kari Anderson	Monday 12/05	all day	TBD
Eric Wong	Monday 12/05	all day	TBD
Richard Sarrach	Monday 12/05	all day	TBD
Jonas Coersmeier	Monday 12/05	all day	TBD
Jeremy Carvalho	Monday 12/05	all day	TBD
Dan Silver	Tuesday 12/06	all day	TBD
Erich Schoenenberger	Tuesday 12/06	all day	TBD
Cathy Jones	Tuesday 12/06	all day	TBD
Yael Erel	Tuesday 12/06	all day	TBD
Soo-in Yang	Tuesday 12/06	all day	TBD