What we do now is a planned series of publications sharing the emerging pedagogy at the School of Architecture at the University of North Carolina at Charlotte. This initial volume features first semester studies in the School of Architecture. The essay explores the rationale and methods chosen to introduce students to a focused mixture of design skills and architectural practices. It demonstrates a clear, structured approach to organizing studio assignments and lectures.

The images included follow the parallel paths of the design studio & visual studies class. Drawing, diagrams, collage and model-making document the instruction set and provide evidence of students discovering architecture within the broader world of design and art. Traditional graphic skills sponsor learning basic digital tools.

Along with the course work, practice at presentation skills, effective journal-keeping and visual note-taking reinforce learning beyond the boundary of the studio.

The work shown provides evidence that traditional design craft is alive and well, cohabiting quite comfortably with contemporary skill sets.

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WHAT WE DO NOW

First semester studies in the School of Architecture

Michael T. Swisher
ASSOCIATE PROFESSOR
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Christine Abbott
Above: students draw in the gallery using a framing device as part of a skills exercise.
FORWARD

The first year of a studio education is pivotal. Many of us remember our first days as a time of anxiety and hope. Then a sense of wonder and responsibility captures our attention. Our words and actions mingle as we question how visual practices might inform a university education? We look at—but perhaps do not really see—hundreds of new images around which we form ideas and learn techniques. Seeing is no longer about just using one’s eyes to gaze but also about learning reflective thought and intellectual rigor through action. Pencils, ink, color washes, photographs, paper, glue, books, models move beyond representation to become methods of inquiry.

What we present in this monograph is a glimpse into an educational process. It is not a model but an ethos developed through debate, occasional lapses into stricture, and continuous challenge to an emerging sense of visual literacy. It is the exact opposite of Richard Sennett’s convenient definition of learning as ‘gaining knowledge through accidents of experience.’ Over many years we, as educators, have asked ourselves several questions. What is the role of the first year in developing skills the students will carry to succeeding years? How does the first year teach comprehensive thought. How might we teach students to embrace complexity? How do we teach skills across a diverse body of students? Can we teach to the gap in a student’s thought to enable the discovery of potential? Can we instill a culture of visual thinking?

These are serious questions for students, especially when we intentionally resist defining the end result of their work to encourage personal commitment yet focus hard on teaching skills needed for the long haul. At first glance the exercises and products presented here appear tightly choreographed. Upon study, however, nuances of technique, approach, individualization and qualitative judgment reveal unique attributes and subtlety. It is my observation that students learn effectively through comparison and cross-reference early in their education. It is too early for much internalization; the learning process is informed by an appreciation of competence over completion. A serious dialogue—not just conversation—evolves when common ground is achieved. This is the foundation, the beginning, the point of departure, the moment of accomplishment, the release from literal to conceptual work. And it lasts forever.

Ken Lambla, Dean, College of Arts & Architecture
ACKNOWLEDGEMENTS

This book exists through the efforts of a host of good people. They deserve public recognition.

I wish to first thank Dean Kenneth Lambla of the College of Arts & Architecture for his support and encouragement throughout its production. Special appreciation also goes to the chair of the former College, now School, of Architecture at the University of North Carolina at Charlotte, Betsy West. Without her support, the first year teaching program would simply not be what it is.

Most of the images in this publication are the work of first year students 2007–2008. There are seventy-two represented here even when their particular work is not in these pages. The previous year’s students are here in spirit as well. They greeted an evolving curriculum without prejudice last year, and supported the current class with both encouragement and insight.

Trolling one-hundred-forty-four discs holding images of every studio or skills assignment, the serious work of being a first year student here makes itself apparent. The students may arrive naïve and isolated, but they quickly adapt and morph into a group. They enjoin the work as strangers, but soon become comrades-in-arms. They help one another learn. They show pride in their accomplishment. It pleases me to display this token of their selves. They are why we do what we do, and I thank them for it.

During the past two years, a group of faculty has worked together to construct an integrated pedagogy of particular clarity and organization. The structure continues to grow and refine, even as this publication shares some of its accomplishments, so there is recognition due.

The first year program’s teaching structure is straightforward. Each semester two permanent faculty members teach in studio and two in the visual studies class, a.k.a. skills. In addition, two Visiting Assistant Professors lead studio sections in both semesters. The four studio sections share assignments, teaching materials, lectures, critiques and other activities. There is much to coordinate by way of collaboration.

I am one of the permanent faculty members in the first semester studio and in both skills courses. The three visitors, Jeremy Fisher (2006–07), Jason Slatinsky (2006–06) and Christine Abbott (2007–09), have made the college, the school and the
program richer, better and more effective. Their intelligence, ardor, talent and courage have served as a force multiplier for all our efforts. They leave their mark. Acknowledgement does not cover our debt to them, but it is a start.

Associate Professor Peter Wong and Assistant Professor Jeff Balmer lead in the second semester. I thank them for their constant willingness to explicitly engage what our students bring forward with them. Their generosity and attention are both noteworthy and humbling. They keep my spirits high.

It is not possible to say enough good things about my chief collaborator in studio & skills classes, Greg Snyder. I cannot hide my bias. I admire him. He is an extraordinarily gifted and careful teacher, a persistent colleague full of quiet energy. He is a constant prod to excellence and a good friend. Everything in this book bears his mark as once more he allows me to take the podium on our behalf. I thank him warmly.

As a final note, I need to acknowledge my secret weapon, Mary Lou Albano, my private consultant in all things pedagogical. My PhD wife—her sobriquet as I cite her expertise—regularly vets my so-called notions about teaching, making sure that my enthusiasm does not devolve into a train-wreck of arcane speculation. To her I dedicate this text. Thank you, ML.

Michael T. Swisher
Charlotte, May 2008

The field trip: students in Washington, D.C. during Spring 2008 visit.
Human sensibility is our only channel to the universe. If the capacity of that channel can be increased, knowledge of the universe will expand accordingly.

George Kubler
WHAT WE DO NOW
If anyone ever writes a history of beginning design education there will likely be more pictures than text. This seems reasonable. After all, design makes things occur. It produces and leaves behind artifacts. On the other hand, pedagogy is not a physical thing. Despite the occasional syllabus, the teaching — both content & method — often remains solely in the selective memory of former students. The why, how and reasoning survive as shadows and echoes.

Against this background, the project emerges as the focus for most discussion. We treat its framework as the embodiment of pedagogic strategy. Any skills learned in working on projects, therefore, cohabit that framework by implication. This extended essay attempts to overlay project results with teaching intent, to sharpen the imprint of our program objectives on its projects.

INTRODUCTION
The first semester of the undergraduate design sequence at the School of Architecture organizes its project structure to follow a specific, intentional skill sequence. We begin by identifying skills, conceptual and practical, that we want our students to carry forward. We then design projects as daily tasks that directly address those skills in a reasoned sequence of strategies and tactics.

This book also presents images that illustrate two pedagogic threads that coexist within the teaching practice of our first semester curriculum. These are:

- Lesson planning as a sequence of learning,
- Materials and examples that support that sequence.

The intertwining of those two threads should make clear that we plan and articulate our projects around explicit skills. These two facets, lessons & examples, bind the overall curriculum. For now, I introduce them separately.

Lesson planning
The lesson planning in our classes organizes around a three-project, skills-based design sequence. This is the first thread. It is
also an unabashed entreaty for order. That is what we teach our students: how to make things with order to them.

The lessons, therefore, embody several broad concepts or procedural themes. They intertwine by recursive iteration. As they reoccur, they build an increasingly complex matrix of inter-related design experience. The structure is as follows.

- The three procedural themes move from figure/ground, to plan & proportion and on to structure & volume.
- The organization of assignments addresses skills & concepts as two parts of the same objective.
- Lectures are both assignment specific & sources of general architectural design background.
- Beyond teaching design, we teach skills that bear on both review and evaluation, establishing criteria & methods for presentation.

Illustration materials that support this overall scheme include handouts, examples, student work and photographic evidence from both the studio & parallel skills class.

Making and using examples

The second thread of our program is a deliberate and extensive use of images and models as exemplars for the project sequence. Virtual models and drawings form a particular background for the daily assignment & lectures. They provide a consistent visual reference for the four studio sections taught by the four instructors.

The supporting visual materials include:

- Handouts—printed and electronic,
- Lecture examples—drawings & models specific to each project,
- Diagrams—drawn & modeled, virtual & real,
- Presentation guidelines—visual and verbal.

The primary purpose of those materials is to further the teaching of design. However, concurrent with that role they also introduce a discussion of printed and interactive digital models as exemplars that beckons from the edge of current and traditional teaching practice.

WHAT IS SHOWING

Our program grows from questions we ask ourselves of the teaching task. We consider the subject—design—but also who we teach. This leads us to three general questions:

- Where do our students coming from?
- Where do they need to go?
- What skills & capacities do they need to construct a suitcase for the trip?

These questions taken together prompt a broader, more encompassing question to puzzle out: given that students do not arrive evenly prepared for the study of architecture, what
should they be able to do after taking this class? Those familiar with the language of instructional design may recognize this as a request for probable outcomes. After all, if we judge students on their ability to accomplish some task, we ought to define that task clearly.

In any studio, the tasks are practices commingled within particular skills. Those skills vary from course to course, level to level, but as a group define what we do. Skills are what we require therefore, they are what we teach.

**Overall goals**

As we define success as skilful demonstration, then we first identify those skills that we want students to demonstrate. This gives us our pedagogic task, a list of skills to teach.

The first skills are higher order concept skills, often associated with talent but remarkably open to learning. These skills might be familiar to anyone who has read in the literature of visual psychology. They concern the implementation of order. As order leads to pattern, therefore, our fundamental conceptual skills in the first semester surround ideas of pattern. Our particular sense of concept skills contains three related actions:

- Recognizing patterns & pattern systems,
- Identifying patterns: strategic, tactical & formal,
- Manipulating patterns toward particular purposes.

Immediately following that list, we confront the role of judgment within skilful practice. We treat certain skills as fulfilling the capacity for judging the implementation of order in a constructed environment. They are, in one sense, meta-skills.

Skills that lead to judgment are actions that teach the students to do a number of cognitive things. They learn to infer structure from formal order—putting things in order is at the heart of design discipline. They begin to recognize scale as a reality that springs from order. Furthermore, they start to imagine interaction as part of the formal purposes of order.

Of course, if you tell them everything the first day you do no good. Instead, you begin by giving them real confidence through simple, guided lessons in doing things well. After all, useful practical skills underwrite clear concepts and good judgment. Students should learn skills that lead consciousness as well as those that follow from other ideas. Design always reflects its skills, as music reflects its instruments. That is why a new purpose can demand new means.

In addition, what is valid for design holds equally true for design communication. Students need to communicate well, to practice clear and well-crafted presentation both ongoing and summary. It is part of giving them confidence in their emerging mind-set. It is part of our objective.

**What the exercises do**

The first semester curriculum begins by lending students a place to start, a place both familiar and unlearned. The assignments do...
not follow the common studio project practice of a single handout begetting weeks of encounters at students’ desks. Instead, we choreograph their learning in sequential steps. Each class meeting begins with a lecture and new assignment. The review of the previous days work, therefore, has a shared rationale. In addition, because all reviews happen in groups, students learn from each other’s work.

The skills course provides additional practice in drawing, visual studies and color. There is a parallel redundant iteration built into the mix. There is also lively public discussion across studios as well as comparisons of the individual instructors modus operandi, biases and advice. This is a particular strength of collaboration amongst teachers. Students see us talking, wandering through each other’s spaces and getting excited, and they become excited too.

The overall methods and strategies connect between courses. Lessons reinforce common goals in studio and the skills class as well as address similar themes. This means that parallel assignments iterate practical and conceptual skills concurrently in two classes.

While skills class projects generally focus on observation, the lectures consistently connect the act of drawing with design strategies. Lessons in the skills class always reflect and include lessons in composition. A patient review of our project list—found to the left—may make the structure clearer, particularly after viewing the work itself.

Maintain well-articulated workload.

Our students work very hard, but to good purpose. However, given the all-nighter tradition of architectural education, it is good to remember that most first year students work without governors and often to no good end. Students need to learn what they can reasonably accomplish in a set amount of time. They need to learn time management.

For us there are other reasons at play as well and as a result, we give detailed time spans for each action we ask them to accomplish. This makes good sense. It also allows us to plan tasks over a longer period with a reasonable expectation of success. Furthermore, it gives students a guideline for planning their work time. We occasionally err, but overall results support the effort.

The use of examples

In our handouts and lectures, we provide the students with clear examples of both process and expectation. Typically, this means systematic illustrations and diagrams. Aside from the obvious aid it provides, students tell us that it gives them confidence that we are working alongside them in the studio. The images that we show them also reveal to them their teachers at work.

The lectures in particular have greater relevance to what they are trying to do because of the examples. It became usual to
find students reviewing lectures on their computers. This has all sorts of obvious benefits but the best is that it starts a good habit of looking at the work of others as precedent.

Design is a practice. It needs habits and it needs benchmarks. For beginning designers, those benchmarks work best that are closest to what they are doing. It builds the deeper habit. Our more successful lectures utilize the same means that the students use in their projects to examine additional complex architectural projects. As the program moves forward, the faculty generates more of these materials and the process deepens. Teaching materials is one of the principal discussion points among the first year faculty in both semesters. The issue speaks directly to the course structure; lesson planning, materials and staffing. It also leads directly to our next topic: the nature of our collaboration.

COLLABORATIVE STRUCTURE

As I mentioned in my acknowledgements, first year teachers come in two flavors. Each semester there are two permanent faculty members and two visiting faculty in studio. It is our goal to see this structure grow into two teaching fellowships, not because we eschew additional tenured faculty in the foundation but because of the obvious benefits this has on student engagement and work habits.

As part one—practice, regulating lines defining a square

Assignment:
Mark nine note cards with a square area to work on for each week of this exercise. Follow the five step part steps discussed below. (Figure 1) to define a square area. The example to the right (Figure 6) shows the result. At the end you will discuss your results. The final image should be a three on one half inch square set with one quarter inch margin top and side and a one and one quarter inch bottom margin. (Haragi do well)

Note that these measurements occur at intersections of lines as in step one, and that others occur at these as in step two. Draw these steps with a hard lead—fill or pen — and a light touch. The guidelines should be easy to type — or erase — as you do the exercise.

Due: Wednesday at 5 p.m.
Allow thirty minutes to complete this part of the exercise.

Left: the assignment handout for the first skills exercise demonstrates its method in ten steps and shows an example of the finished process.

Some guiding principles—courtesy Professor Leslie J. Laskey
- If you don’t raise the bar, nothing changes.
- Talk is cheap. Money buys whisky.
- Sometimes activity is mistaken for achievement.
program but because there are multiple benefits for the school, the faculty and the visitors.

One immediate benefit that our structure brings is collaborative interaction. Having the same assignment vetted in four distinct studio sections, deepens the evidence of its success and its possible improvement. With that in mind, we leave specific modules open to intervention and change. In addition, each teacher has the possibility of bringing in divergent examples both of her own making but also from her students.

For beginning teachers, the benefits of having colleagues whose task it is to mentor is a boon to their cause. It also helps the permanent faculty, routinely prompting discussion and rehearsal. In addition, during lectures, the other instructors can and will ask for clarification. At those moments, the solitude of the podium lessens. As one of our visitors discovered, this camaraderie allows greater focus on the issue at hand or on the screen. It provides a safety net as well as willing ears.

In the end, I confess that teaching first year betters my game as a practitioner. It allows me to propose new ways of seeing the already familiar through others’ actions. Sharing ideas radicalizes my intent and makes me better at what I do.

Discussion with my colleagues also challenges my assumptions, broadens my perspective and sharpens my wit. They come from whole other worlds and have made or are making choices against different backgrounds. Their alien enthusiasms demand attention. Extending those experiences to teaching is an added bonus to an intoxicating sense of possibility. It is not narcissistic to want to improve. It is the soul of good practice.

THE PICTURES

Part two of this book shows student work in the context of the general chronology of the first semester. As it tracks two courses with seventy-two students, a few words concerning its structure seem appropriate.

The basic partition follows the three project groups in studio and the skills class. The first assignment in both appears on opposing pages. Thereafter, the narrative alternates between the two in phases. Summary project pages begin each phase. After the final studio project, a summary portfolio exercise appears followed by journal examples. The text should guide you about specifics.

Clarity necessitated following a few students through each phase. The summaries, therefore, have a second purpose; they show other work. In addition, some project pages, where space allows, show the work of more than one student.

Part three, which follows, contains a few annotated teaching materials that address the pedagogical narrative. With nearly one hundred pages of assignment handouts and several times that number of lecture images, this is the briefest of accounts. The rest await another opportunity.
The images shown throughout this book came from the work of first year students, Fall 2007. Every student does not have work shown, but everyone contributed to the success of the courses. Their names are to the right. I thank them all.

Above & below: final project review in the Salon, Fall 2007.
What we do now
Part two: project groups

Above: critics and students discuss projects at the final critique in Fall 2007.
PROJECT GROUP ONE:  
STUDIO

A1: line and figure on ground

The studio semester begins with a three-part drawing exercise on nine four by six inch cards.

Each exercise occurs in the same three and one-half inch square with one-quarter inch margins top and sides and a two and one-quarter inch bottom margin.

There are has three sets of cards. Each begins with a card showing four drawn horizontal lines across the square from left to right. Every two lines form a pair. Lines appear on the imaginary grids of quarters and sixths. Line weight is constant and even.

For the second part, students draw three similar figures as partial bisected lines. The bisection may occur at any single line of the underlying grid.

For the third part, students trisect the original three figures as in the bottommost row. The grids determine the location of the cuts.

student: Shannon White
PROJECT GROUP ONE: SKILL CLASS

A1: practice two, drawing precisely

The first skills assignment presents four two-part practices within a square area. The three and one-half inch square frame reiterates the setting for the first week of studio.

The first image demonstrates the first practice. Fifteen horizontal lines span from left to right. Each line is one-quarter inch from its neighbor. Line weight is constant and even. Additional drawings vary line orientation and weight within a similar structure.

Uppermost: practice 1—horizontal & vertical marks with even line weight. 
Above: practice 2—horizontal & vertical marks with increasing line weight.

Below: practice 3—crossed marks & squares with even line weight. 
Lowermost: practice 4—crossed marks & squares with varying, increasing line weight.

student: Jaymon Diaz
PROJECT GROUP ONE:
STUDIO

A2: figure & ground, part two

Building on the previous assignment, the three-part exercise shown here also uses four by six inch cards. Each image shares the same grid and format. There are again three sets of cards for each exercise.

Students recreate the compositions from the last exercise, this time by cutting and pasting black forms on a card—this is a basic skill introduction. In addition they observe the careful translation of drawing into constructed figure/ground.

A3: figure & ground, part three – interpreting field

The third assignment continues the previous exercise, adding cut yellow trace to the composition. Each addition defines a particular field condition from a supplied list.

There is a lecture preceding that describes and reviews the field types. For our purposes field types:
· Fill a defined area,
· Define an implied area,
· Define a relating area.

In addition, field conditions cross, span & exhibit grain as well as connect, extend, & reify spatial ideas.

Uppermost row: two horizontal forms across the square shown as cut shapes.
Above middle row: figures as partial bisections shown as cut shapes.
Above lower row: figures trisected & shown as cut shapes.

Below left: two horizontal forms with added field—uses uppermost left image.
Below middle: the same figures as partial bisections shown with added field.
Below right: the figures now trisected & shown with added field.

student: Shannon White
For this exercise students select examples from the nine most recent compositions for further investigation.

To each of the chosen compositions they add another yellow trace field. Each new field addresses the existing grain of the composition as a whole, the field or the figure alone. In addition they either:

- Exist as a discreet entity—touching neither figure or field,
- Overlap either figure, field or both,
- Cross either figure, field or both.

This third object multiplies the complexity of the overall composition.

At this point the students also begin recording in their journal a detailed account of their process. Studio instructors help interpret terms and specific requirements.
PROJECT GROUP TWO:
STUDIO OVERVIEW

Assignments: Part one

- A4: 4x6#1—figure & ground
- A5: add field
- A6a: relief 1 & group
- A6b: copy relief 1
- A7: ground grain & group
- A8: group relief
- A9a: axon cards
- A9b: figure redo
- A10: field redo

Above: examples of student work for part one of the second project group.

student: Thomas Barry
This assignment group begins with sixteen variations. Using regulating lines students define a single rectangular figure on a four by six card. They begin with drawn lines and proceed to cut black paper. All figures are orthogonal in form and between one third and one eighth of the total area.

The next step adds a second shape, a field, to each of four cards from the last exercise with four variations for each using yellow trace as in the last project cycle.

The exercises lead to shallow reliefs based on four of the cards from the previous assignment. Each exhibits a spatial object in the area defined by black figures. The goal of the construction is to articulate the space of the original figure and enhance the spatial implication of each design.
PROJECT GROUP TWO:
STUDIO

A7: ground grain & group

This exercise reverses the making process. Students draw from the recent relief, engaging in a form of diagraming.

The exercise illustrates the existing relief as tonal elements, both figure and field as grays. When forms overlap, they darken the tone appropriately.

After completing the tonal drawing on a white trace overlay, students draw a dominant grain gesture as outline. This divides each quadrant into two or three distinct subdivisions.

There are a total of three trace overlays. The intent of the project is to further develop the texture and complexity of the ground for both the individual elements and the ensemble.

Above: the first drawing addresses each quadrant as individual composition.

Below left: the second drawing each quadrant benefits the overall composition of the group of four.
Below right: the final overlay presents a synthesis of both conditions.

student: Jaymon Diaz
PROJECT GROUP TWO:
STUDIO

A8: group relief

The relief model follows the arc of the work thus far. This eight by twelve inch shallow relief adds grain elements drawn on the overlay. This project demonstrates increased complexity of both the individual quadrants and the ensemble. It also tests emerging craft skills.

Above: this relief model follows directly from the drawings to the left. 
student: Jaymon Diaz

Below & right: these examples show other students’ projects. 
students: Veronica Bowers, Ryan Miller, Thomas Barry
PROJECT GROUP TWO:
STUDIO

_AgA: paraline drawings_

This exercise introduces students to plan oblique drawing as a dedicated design tool.

*Above, left & below:* the drawings record each quadrant of the finished relief. The goal of the project is to introduce this mode of drawing as a design tool.

student: Jaymon Diaz
PROJECT GROUP TWO:
STUDIO

A9b: figure redo

In this assignment, each student elects the quadrant that presents the most coherent challenge for change. Using both plan oblique & plan drawing, they design a more exacting and architecturally suggestive figure to inhabit the quadrant.

After completing both drawings, they construct a new figure for the site and execute one for each of the other three quadrants. Upon completion, the four models replace the earlier figures in the shallow relief. These remain undocumented working models aside from entries in student journals.

Above: axonometric drawing of individual quadrant.

Below: plan drawing with tonal additions.
PROJECT GROUP TWO: STUDIO

A10: field redo

This drawing reunites the four quadrants of the project thus far in a more articulate state. Tonal plan drawings extend to include the local quadrants. Half-walls and another horizontal layer move toward a more unified figure & ground composition.

Right: the drawings record each quadrant of finished relief. The goal of the project is to introduce this mode of drawing as a design tool.

student: Jaymon Diaz
PROJECT GROUP TWO: STUDIO OVERVIEW

Assignments: Part two

- A11: section & elevation
- A12: plan layers
- A13: new relief
- A14: perspective
- A15: midterm prep
- A16: plan & section
- A17: one-point perspective

Left: examples of student work for part two of the second project group
students: Andrew Blackwell, Shannon White
PROJECT GROUP TWO:  
STUDIO

A11: section/elevation drawings

This assignment consists of two section/elevations for each quadrant to better study and refine the vertical elements. It introduces students to section conventions on trace paper. The project clarifies the proportional relationship between the object, its components, the quadrant and the coherence of the design hierarchy.

A12: Plan layers

This assignment shows a complete design plan for the four quadrant group in multiple overlays of trace. The drawings continue the introduction of architectural convention in presenting space and form. The project targets relevant forms and relationships in preparation for constructing the final model. Together with the sections it supports the construction of that model.

Above & left: the drawings show each quadrant as individual compositions using section conventions, drawn in pencil on trace paper.

student: Jaymon Diaz

Above, left & below: layers of the drawing of a single project. Shown are separate sheets for:
- The figure at section height, inclusive of all walls, half-walls and overhead features,
- The perimeters of field, grain and path,
- All bounding lines and axes.
The collected seven sheets align as set of laminations in front of a nine by twelve inch white page.

student: Jaymon Diaz
PROJECT GROUP TWO: STUDIO

A13: New relief

This assignment integrates all changes into a new shallow relief model of all four quadrants. This relief is at the center of the midterm review.

Above: final relief model following the preceding development. student: Jaymon Diaz

Above, right & below: examples of other students’ final models. students: Andrew Blackwell, Shannon White, Thomas Barry, Rachel Klein
PROJECT GROUP TWO: STUDIO

_A14: Perspective views_

The visual source for these drawings is direct observation of the final model. They represent a series of views along a path.

_Above & left: four perspective drawings taken along a path on the model._

student: Jaymon Diaz
PROJECT GROUP TWO:
STUDIO

A16: Plan & section drawings

This assignment consists of a plan and two section/elevations of the final model for use in the mid-term review. These drawings formalize and illustrate the visual structure of the project.
PROJECT GROUP TWO: STUDIO

A17: perspective – drawing the one point

This project served as a break between design projects and grants an opportunity to practice constructing one-point perspectives. The source for these drawings is earlier project models of the individual quadrants.

Left, above & below: one-point perspective drawings.

student: Jaymon Diaz
Above: student journal notes regarding final perspectives, project group 2.
Student: Aleksandr Karpov
PROJECT GROUPS ONE & TWO: SKILLS

Selected Assignments

Group Two: part one
- A2a-three scales (1 of 9)
- A2b-copy this (1)
- A3-bounding boxes (1 of 9)
- A4-drawing test 1 (1 of 2)

Group Two: part one
- A5-grayscale (1)
- A6-grayscale drawing (2)

Right: skills projects focus on basic drawing and visual representation tasks. Their analytical component mirrors that of studio.

student: Jaymon Diaz
PROJECT GROUPS ONE & TWO: SKILLS

Selected Assignments

Group Two: part one
- A6-grayscale drawing (1 of 2)

Group Two: part two
- A12-path drawing (1 of 2)
- A13-one point perspective, in-class session (2 of 7)

Above: skills projects progress to increasingly sophisticated drawing and visual representation tactics. They continue to parallel studio tasks.

student: Vicky Carpenter

Below: in-class drawing sessions support assignment tasks.

students: Thomas Robinson.
PROJECT GROUP THREE:  
STUDIO OVERVIEW

Select assignments

- A18-grids & three figures
- A19-spatial models
- A20-grids & walls
- A21-diagrams

Above left: the first assignment explores composition of required plan shapes using trace overlays.
Above right: the shapes transpose into three dimensional schema.

student: Veronica Bowers

Above: four assignments that extend composition & schema into the realm of structured space.

student: Veronica Bowers
PROJECT GROUP THREE:
STUDIO OVERVIEW

Select assignments

- A22-ten steps
- A23-spots & dots 1
- A25-diagram model #1
- A26-three diagram models

Above: extracts from two assignments that explore the issues of the diagram. student: Veronica Bowers

Above: The diagram concept extends into the three dimensional analysis of form, movement & structure. student: Veronica Bowers
PROJECT GROUP THREE: STUDIO

A18a&b-grids & three figures

On drawn grids, students place three figures using tape & yellow trace. The three figures are: a five inch square, an eight by one inch rectangle and a two by three inch rectangle.

There are three composition strategies for this project arranging the three figures according to formal criteria. These are:

- Separate, not touching,
- Bridged, one figure bridges to a second using the third but does not intersect both,
- Overlapped, all figures intersect.

The three strategies require spatial dynamics reflecting their particular compositional character.

This project group continues through to the final review. Where previously students worked within classical proportional geometries, they now work within an even grid with numerically related dimensions.
PROJECT GROUP THREE: STUDIO

A19: spatial models – in two parts

In this assignment, the three trace compositions sponsor three simple half-scale massing models. The site is now a volume—eight by eight by ten inches—on a nine by twelve site. Students extrude the original three shapes to either five, three or two inches—one each. All three forms penetrate the site plane.

Left, top to bottom: separate, bridged & overlapping compositions extruded in half-scale models.

student: Ryan Miller
PROJECT GROUP THREE: STUDIO

Az0: grids & walls – in several parts

In this assignment, the three previous massing models sponsor drawings and an additional model. Part one consists of drafted sections and plans of the three models at half-scale. Using the grids as guides, students elect locations for simple x-y-z grid constructions on trace.

Above & below: plans and sections explore the potential of an activated interior space.

student: Ryan Miller
Part two shows a model that explores further elaboration of the earlier simple grid construction.

*Left & below: plan and corresponding schematic model.*

*student: Ryan Miller*
PROJECT GROUP THREE: STUDIO

A21: spatial hierarchy – field, grain, & path

Over drafted sections and plans, drafted lines represent spatial hierarchy resulting in a field, dominant grain & an elective path. These are first outlined forms on vellum and followed by trace overlays. All elements adhere to the figure grid.

Above & below: plans and section drawing with trace overlay diagrams.

Student: Ryan Miller
PROJECT GROUP THREE:
STUDIO

A22-ten steps

The assignment examines the project thus far in a series of ten illustrations drawn at quarter-scale. Captions describe changes in the composition at each point of its evolution. Representations employ controlled line weight and line type with tone added for clarity or contrast.

Above, left & below: One strategy, employed by several students, began with a larger grouping of illustrations to be edited on pin-up.

student: Ryan Miller
PROJECT GROUP THREE:  
STUDIO

A22: spots & dots—column & wall schemes in plan

Students construct three copies of an enhanced underlying grid. On the grids they draw three strategy sets each with three compositional tactics, a total of nine drawings.

The three strategic sets are:
· Axis and boundary,
· Spatial hierarchy,
· Spatial construction.

The three tactical categories are:
· Plans using only columns,
· Plans using only walls,
· Plans using both walls & columns.

Above: strategic sets 1 – 3 in rows with tactical variations in columns.  
Right bottommost: the last image from above, enlarged.  
student: Ryan Miller
PROJECT GROUP THREE: STUDIO

A24: spots & dots — column & wall scheme in section

This exercise begins at the final hybrid state of the last exercise. In this iteration, the combined grids serve as visual measurement within the section drawings.

The overall goal is to achieve appropriate density of order generated entirely by the analysis of the pre-existing hybrid plan.

Above & below: two drawings bringing the plan order into the sections of the project.

student: Ryan Miller
PROJECT GROUP THREE: STUDIO

A25: diagram model #1

The object of this project is to construct a diagrammatic model at half-scale based on the previous plan and section drawings.

Below: the model encompasses object forms, principal path & dominant grain. The model uses particular materials to identify the three elements:

- Eighth inch basswood in x-y-z construction maps bounding edges of each form as line,
- Two-ply chipboard constructs the grain object as a plane,
- Two-ply white museum board identifies the principle path as a volume.

student: Ryan Miller
PROJECT GROUP THREE:
STUDIO

A26: three diagram models

The object of this assignment is to construct three distinct diagrammatic models at half-scale based on previous plan and section drawings. The models focus on grain, datum, and section, drawing from the same material palette with some variations.

Model #1 identifies structural grain of each form using chipboard, and the cross-grain connection using museum board.

Model #2 identifies the dominant grain of the datum condition of the whole with chipboard, and the volumetric response as frames using basswood sticks.

Model #3 identifies elements in the x-y-z axes that qualify movement through the forms. It uses planes to define movement through the ground plane, museum board to define the vertical dimension and encountered sections, and basswood to define the cross-grain section as a volume.
PROJECT GROUP THREE: SKILLS OVERVIEW

Select assignments

- A15-CoA halls (1 of 2)
- A17-palette dynamics (1)
- A18-grayscale grid gouache (1)
- A19-grayscale + color grids (1 of 2)
- A20-color grid (1)

Above: hall perspective & the gouache palette dynamics assignment.

student: Aleksandr Karpov

Above: four gouache assignments based on diagrams of the studio project.

student: Aleksandr Karpov
A15: CoA Halls

This assignment is a perspective practice, drawing axes and hallways within our building. It asks for two sets of three drawings of one-point perspective views.

The assignment uses a viewing card method. It takes students from a three and one-half inch square drawing on a note card to drawings twice and half that size.
PROJECT GROUP THREE: SKILLS

A16-gouache scales

The introduction of color theory and practice uses traditional gouache and begins with gray scale and other palette dynamics.

A18-grayscale grid gouache

The first applied color exercises use student projects, in this case analytical plan diagrams. The image, based in transparencies, is an appropriate focus for color theory and a useful design tool that continues on into the second semester studio.

Above: the first gouache composition assignment based on diagram of the studio project.

Above: the preliminary ten-step gray scale practice prior to the assignment.

student: Rachel Klein
PROJECT GROUP THREE:
SKILLS

A18-grayscale grid gouache

Above: the fluidity of the color assignments reflects its roots in the studio.
Below: part of the learning curve is recognizing appropriate preparation and planning.

student: Vicky Carpenter
PROJECT GROUP THREE: SKILLS

A19: color exercise – gray scale plus grid #2

The assignment uses the elements and bounding boxes of two studio compositions as the basis for two value studies in gouache. As with the last exercise the majority of the values are gray, achromatic colors. In addition, in this exercise color each of the principal forms transpose to shades of red, yellow and blue.

Above & below: the second gouache assignment adds color to the figures.

student: Rachel Klein
PROJECT GROUP THREE: SKILLS

A20: color exercise – color grids #1

This exercise uses the elements and bounding lines of the current studio project for a color study in gouache. In contrast with the previous project, the majority of the colors are intermediate, broken colors mixed from two or more pigments.

student: Rachel Klein

Above & below: using even a specified color palette results in a wide variety of results.

student: Logan Chambers
PROJECT GROUP THREE: SKILLS

A21: color exercise – color grids #2, added form

The practice goal for this exercise is the use of simple painting resists or masking. Using the previous color study students subtract select wall and column forms using tape as a resist.

The exercise also allows for improvement in painting technique and color use.

student: Rachel Klein

Above & below: adding a few forms increases the visual richness of the composition.

student: Jaymon Diaz
Using the previous assignments as a beginning point, students articulate the principal forms with shades of either red, yellow or blue.

In this exercise, the horizontal and vertical components extend partially rather than completely across the compositional field. Choosing an appropriate visual extension demonstrates the overall spatial hierarchy of the composition.

student: Rachel Klein

Above & below: in this iteration, the diagram comes full circle as a color study.

student: Jaymon Diaz
PROJECT GROUP THREE: 
STUDIO OVERVIEW

Select assignments

- A27-plans & sections
- A27b-model fragment
- A28-final model

Above & below: views of the final three drawing & modeling assignments for project group three.

student: Shannon White
PROJECT GROUP THREE: STUDIO

A27-plans & sections

Prior to building the final model students construct a set of plan and section drawings. The intention is to clarify the spatial aspects that derive from the analytical models and diagrams. This also allows students during model construction to vet their design process and check their capacity for organizing three-dimensional events in drawings.

Above, left & below: final plans and sections drawn before constructing the final models.

student: Ryan Miller
PROJECT GROUP THREE: STUDIO

A27b-model fragment

Below: before making the final model, students construct a fragment to familiarize themselves with assembly and detail. It is the final checkpoint.

student: Ryan Miller
PROJECT GROUP THREE: STUDIO

A28-final model

Above & below: two views of the project group's final model.

student: Ryan Miller
PROJECT GROUP THREE: STUDIO

Other examples

Above & below: two views of another student’s diagram model.

student: Jaymon Diaz
PROJECT GROUP THREE: STUDIO

Other examples

Below: the same student’s final model.

student: Jaymon Diaz
PROJECT GROUP THREE: STUDIO

A29: five diagrams

To accompany their model in presentation students construct five final diagrams analyzing both plan drawings and final model. These diagrams represent ideas similar to those of the diagrammatic models. The principle difference is that the models were studies and these are analytic & after the fact.

The four diagram types are:
- Datum,
- Grain & cross-grain,
- Spatial hierarchy,
- Path.

Above & left: examples of the five diagrams.

student: Ryan Miller
PROJECT GROUP THREE:
STUDIO OVERVIEW

A32: final document

The last assignment is a summary handout of the entire project group. This is shared with reviewers during the final review. It incorporates digital portfolio skills and images from both studio & skills class. All images result from students’ scans and photographs. Digital documentation continues throughout the semester as part of the skills cycle.

Above: the final presentation incorporates a similar mix of studio & skills materials. student: Torrence Raines

Below: the handout follows a template for a small brochure. student: Ryan Miller
Keeping a journal for both studio and the skills class is an important part of the student experience. It allows students to experiment freely with compositional ideas and to develop their own visual identity.

At the same time it is an important record of how they each go about learning. For the instructors, it is an important yardstick for gauging student intent and a more subtle instrument than simply evaluating formal skills.

The students exhibit a wide variety of graphic exploration in their journal pages as these few examples clearly demonstrate.

*Right top:* journal entry concerning gray scale assignment. *Right bottom:* entry on line weight in drawing. Student: Aleksandr Karpov
**Example pages**

**Left top:** journal entry on line weight in drawing.  
student: Andrew Blackwell

**Left bottom:** entry on line weight in drawing.  
student: Janice Kim
Class discussion in the salon:

- Delusion of Skill
  - A form of learning where you feel good after you fail, because you fail to realize the lesson.

Fifth week entry recording a drawing review

Student: Lynsey Davis

Entry on regulating lines

Student: Torrence Raines
JOURNAL: SKILLS & STUDIO

Example pages

Left top: journal entry from Thanksgiving studio assignment.
   student: Lynsey Davis

Left bottom: another Thanksgiving studio assignment.
   student: Shannon White
What we do now

Part three: teaching materials
COURSE MATERIALS

Assignment example

Effective teaching requires clear instructional materials. Every assignment, each meeting of the two courses, includes both handouts and lectures.

Examples form the base for each exercise. These examples come from two sources, original instructional material and previous students’ work.

Original materials are in traditional formats—drawings & models—when the mode of presentation allows. More often digital sources prove particularly useful in large lecture situations and for posting as downloads for students.

Left top & bottom: assignment handout A3b from the first studio project group.
Digital models find a useful home in first year instruction. The ability to orient models to comply with drawing conventions helps students grasp the relationships of graphic representations.

In addition, digital models can display strategic variations with remarkable ease. Such models make comparison and understanding easily available to the students.

Left: digital models of the second studio project group.
Digital drawings and models offer the possibility of altering images succinctly, particularly allowing images to build up in sequence. Overlays and transparencies enable the presentation of those sequences in quick comparison to three-dimensional models on the lecture screen.

In addition, digital models offer the possibility of effectively displaying the effects of light and shadow on form.

*Left top & bottom: from a lecture on the relationship between drawing types and model views.*
COURSE MATERIALS

Lecture example

The capacity of digital drawing programs to layer information over images also aids in teaching drawing skills. This example shows the final diagram from an analysis of a photographic view.

Combined with a hand-drawn example, the composite adds clarity and utility for the students.

Example slides—next page

Digital models and color images such as these form an integral part of the studio and skills lecture materials. Images of lecture slides appear on the next page.

Left above: digital overlays identify accumulated observations in constructing a perspective sketch.

Left below: a pencil drawing serves as a companion to complement the diagram. A student example may be found on page 28.
Above & below: screen shots from two lectures. The first illustrates part of a studio assignment. The second shows examples for a skills assignment. Lectures appear on the school server for reference and printing by students.

left top:
Four color palette used for exercise.

left bottom:
Broken colors within palette.

right:
Example of completed image.

the assignment, example
Above: students draw still life objects in the gallery as part of a skills exercise.

A last word
AFTERWORD

Teaching as fellowship: notes on learning how to teach

One year ago, on the heels of my own architectural education, an opportunity to introduce design and architecture to a group of trusting neophytes came my way. Leveraging what some might call naïveté—I prefer unfettered optimism—necessitated an exploitation of my very recent experience as a design student. As it turns out, disseminating information about design is an analogous but entirely separate craft from designing itself. Even so, I used the conceit to construct a framework for understanding the curriculum I was entering. It also guided my attitudes about running classes and lecturing, endeavors I had some limited experience with as a teaching assistant.

To continue by way of analogy, both teaching and the construction of a building require management of regulation and allowed chaos. Organic actions and incidental thoughts take place within an anticipated physical or cognitive space. The refinement of my teaching strategy often involved examining how I regulated a given critique, lecture or discussion and how that action affected students learning.

The characterization of both design and the teaching of design as kinds of craft suggests that one must practice each to learn its rules and tendencies. I found that only through observing and then immediately attempting the tasks of education was I able to grasp how teaching worked and how I might improve my technique.

Despite the connection that both teaching and designing have to practice, the two disciplines call for theory and reflection to keep honest the sometimes-shortsighted propensities of the novice. Overlaps between educating and making allowed me to appropriate a new set of skills with some useful self-awareness.

Practice and allowed chaos

I found that several things made sense in the structured sequence of assignments that constituted the studio course. The creation and implementation of examples for each project created precedent images that students could engage. In my own section of sixteen students, I was also able to inquire about variations and consistencies that those project examples spawned, asking the students to make simple, but useful categorizations of their own work. Which projects show exceptional craft or show intention most clearly? Which projects balance clarity of intention with richness or complexity? What set of projects share similar intentions, etc.? Through comparing artifacts, visual concepts that might seem vague or malleable begin to gain precise meaning. The method was, perhaps, a suggestion of my more experienced colleagues, however, I began to understand its use only through practicing and adjusting the method’s execution.

The necessity of practice became apparent in all facets of professorship that I encountered. I had heard, for example, that students would react predictably to certain pieces of a project statement and that I might save myself the time of individual critiques through an abbreviated, highly directed lesson given to the entire group that would preemptively correct a common mistake. However, it would sometimes take four hours of desk critiques for me to observe the common error and then call the students together after the fact to react to what I had seen.

I concluded that this cycle of trial and error must define the experience of the apprentice. I might have feared that the students might notice and furrow their brows at my inefficiency. Instead,
the extra effort gave the students and I a common ground. I made no secret that I was learning something separate but simultaneous to their learning, and I did not hesitate to imply that my obvious prioritizing of my obligation, as their instructor, called for the prioritizing of their obligation, as design students.

Lecturing
Assembling lectures was the most daunting of responsibilities in my first year of teaching. I relied largely on observing my colleagues as a measure for my final product and delivery. The process, however, remained elusive and continued to evolve violently throughout the course of the first semester. I vacillated between project-based and concept-based frameworks, both equally onerous procedures.

I would begin, for example, with a concept and a few seminal pieces of writing—i.e. McCarter’s ‘The Integrated Ideal’ or Peterson’s ‘Space and Anti-Space.’ Then I would search out images of architectural works as illustrations of the concept. Seeking out visual examples of precise abstract ideas proved to be unpredictable and time-consuming. I found instead that mining a discreet number of projects by specific architects was a more efficient way to arrive at coherent and high quality examples.

On the other hand, I might begin constructing the lecture as a kind of monograph or glimpse into compositional strategies of a set of architects or artists. These talks gave less abstract examples of the concepts embodied in the students’ studio assignments. This approach worked well, as long as I did not overindulge in every architectural glory and biographical detail of said designer—always a temptation. In the end, I determined that no matter how I attacked it, the composition of a respectable lecture took large measures of thought and time.

As with the process of assembly, I came to understand how to lecture only through first-hand experience. Having heard several unsavory scripted presentations during my master’s thesis, and now pressed for time—a chronic condition, I never wrote out my lectures verbatim. Instead, I composed them as branched notes, housing a few simple ideas, descending into increasingly specific ideas that complemented the images.

In practice, my inability to fluidly refer to the text during the presentation—more surprising than the scarcity of my notes—strengthened rather than diluted the presentation. Although I gleaned some useful tactics from the extemporaneous speaking of my teaching cohorts, this noteless lecturing was a distinct lesson. I discovered that the visual prompts of the slides were sufficient to recall even my most specific thoughts. In addition, the more malleable structure allowed me to see clearer connections between points and images and encounter overlays of insight mid-delivery.

In other words, I was able to discern more clearly what was important only as I got up on stage and began speaking. Still, the unpredictably of those insightful overlays can be unnerving, and I expect that time and practice will allow slightly more control.

In the end, the amendment of failed attempts defines the experience of the intern/apprentice. My fondness for nostalgia sometimes likens the appointment of Visiting Assistant Professor to the apprenticeships of other crafts-people becoming masters. My more sober and grateful side recognizes that I am simply learning how to teach architecture, enough of a rarity to call for theory and reflection. I hope that these discussions might keep honest the oft-shortsighted propensities of the architect/educator.

Christine Abbott
Visiting Assistant Professor
A NOTE ON THE TYPE

There are three type families engaged in this publication. Type for part one is Arno Pro designed by Robert Slimbach for Adobe® Systems. Issued as a large typographic family, its character embodies the graceful tradition of Aldine typography moved to the world of digital type.

Part two's typography features the Myriad Pro family designed by Robert Slimbach & Carol Twombly with Fred Brady & Christopher Slye—you are reading it now. It is also the type used throughout the first semester for handouts. Its architecture reflects the same humanist root and the two families play well together.

The third type family is Linotype Syntax™, designed by Hans Eduard Meier and recently re-digitized. It appears on the cover simply for its elegance.
What we do now is a planned series of publications sharing the emerging pedagogy at the School of Architecture at the University of North Carolina at Charlotte. This initial volume features first semester studies in the School of Architecture. The essay explores the rationale and methods chosen to introduce students to a focused mixture of design skills and architectural practices. It demonstrates a clear, structured approach to organizing studio assignments and lectures.

The images included follow the parallel paths of the design studio & visual studies class. Drawing, diagrams, collage and model-making document the instruction set and provide evidence of students discovering architecture within the broader world of design and art. Traditional graphic skills sponsor learning basic digital tools.

Along with the course work, practice at presentation skills, effective journal-keeping and visual note-taking reinforce learning beyond the boundary of the studio. The work shown provides evidence that traditional design craft is alive and well, cohabiting quite comfortably with contemporary skill sets.

Associate Professor Michael T. Swisher has taught design and visual studies at the University of North Carolina at Charlotte since 1988. Educated in both architecture and the fine arts, he has continually exhibited his paintings since 1984.