About this book

This book is divided into seven chapters that cover architectural representational techniques supplemented by design problems based on a college-level beginning design curriculum. Within each chapter the process of design is emphasized. Each chapter is further broken down into units that include step-by-step tutorials to explain the processes of representation. Hands-on exercises allow you to practice and refine your new skills, from the conceptualization of a space to visualizing it two- and three-dimensionally to describing it through sections, elevations, and fully-realized perspective drawings.

This book also includes professional examples of architectural projects. These real-life scenarios demonstrate building techniques and materials that impact design decisions. Case studies show different designers’ interpretations of a range of project statements. You will also find professional advice about entering the architecture profession and what to expect when you get there. Common myths about architecture will also be dispelled.

Read this! websites
Reading material and useful websites will be referenced for a variety of units in the book.

Advice
Advice boxes are interspersed throughout the book to provide additional observations and instruction related to architectural design. Drawing techniques, research methods, and comparative assessment are all found here.

The studio course
In architecture school, the most important course for a design student is the studio course. This is where you are introduced to different processes of design.

The structure of a studio course is much different than that of the typical lecture course. In studio, student ideas are typically discussed as the company of the professor with a present context—material, while a given program or topic. This dialogue differs greatly from the monologue typically associated with lecture courses. As a student in the studio course, you meet in groups and individually to discuss ideas directly with your professor. Professors provide direct feedback in these settings, including suggestions on how to proceed or precedents to study. This direct dialogue between student and professor is housed in the open studio environment. The one-to-one interaction with the professor is unique to architecture and other creative professions. Students, however, also learn from one another in this type of atmosphere. The working environment provides a place in which to interact with other students.

Design projects developed in the studio course are evaluated during a “review,” often with guest critics in attendance. These participants are generally other academics or design professionals. The design work is displayed for review. The student then verbally describes his/ her/ their ideas. The critical material is visual support. The reviewers critique the design work based on the clarity of the idea and its relationship to the project. The design work is displayed for review. The professionals provide direct feedback in these settings, including suggestions on how to proceed or precedents to study. This direct dialogue between student and professor is housed in the open studio environment. The one-to-one interaction with the professor is unique to architecture and other creative professions. Students, however, also learn from one another in this type of atmosphere. The working environment provides a place in which to interact with other students.

The studio environment
Students work best in a studio environment, at individual desks in dedicated spaces. In many studios students are advised to prepare computers to allow for transition between analog and digital media.

Biographies
These parts provide opportunities to highlight an important figure in architecture.
Digital applications
Typically included at the end of each chapter, the digital applications category provides an opportunity to discuss the changing role of digital media relative to both the traditional modes of architectural representation and the education of an architect.

Physical vs. digital models
During the design process, there are increasingly fewer opportunities to make a physical model over a digital model. Physical models allow you to experience the building as a three-dimensional material object, allowing the design to be understood simultaneously through all of the parts and as a whole. There is tactile immediacy to grasping and understanding the form visually and composition through physical movement and rotation. The process compels the designer to be empathetic to the force of gravity. Digital models offer an understanding of the material connections and fabrication implications for the architectural idea. In essence, the designer responds to his physical connection with a handcrafted model. While the digital model also allows a type of visual immediacy through the rapid selection of views, these views are ultimately limited by the screen size and the limitations of the software itself. The designer needs to input a command using the keyboard or mouse in order to control how they are utilized. There is a stage of hesitation to the designer’s engagement with the concept. However, digital models can also provide opportunities to simulate travel through and into spaces, providing viewers a physical model might not allow.

Typical modeling materials
Models do not have to be made from a single material. Using two or more materials can distinguish between modeling and not or between materials.

Chipboard
Pros: no grain, easy to cut, cheap, consistent color and material throughout, comes in different thicknesses, comes in large sheets
Cons: doesn’t look as refined, right variations in color

Basswood
Pros: grain can emphasize directions, material, more refined look, easy to cut, comes in sticks, sheets, and blocks
Cons: has grain, sheet size is limited, costs more than chipboard

Modelling clay
Pros: for making large-scale model, comes in different colors, doesn’t look as refined
Cons: not consistent material throughout, need to add edges when getting pieces together

Pineglass
Pros: provides a transparent material allowing interior views, can model curtain wall spaces
Cons: difficult to cut, especially holes in a model, transparency is sometimes misunderstood

Foamcore
Pros: for making large-scale models, comes in different colors
Cons: not consistent material throughout, need to add edges when getting pieces together

Cork
Pros: comes in rolls and sheets, looks finished, easy to cut used as contours
Cons: expensive

Splashe
Pros: highly polished smooth surface ideal for casting plaster; comes in a variety of sheet sizes
Cons: more expensive than basswood

Corrugated board
Pros: affordable and accessible material, can also be used as other working material
Cons: quality of material is rarely sufficient for final presentation models, must consider exposed edges in final project

Case studies
These sections will highlight professional projects that exemplify the topic being introduced. Professional examples around the representational assignments with real-world applications.

Assignments
Each chapter includes a number of project assignments that provide opportunities for you to test your skills and challenge your creative thinking. Student examples will provide lessons and strategies to design approaches.

Case study: Architectural mock-ups
Architects should be conscious of the impact of their design ideas on a site. Smaller-scale representations can be limiting in presenting the full considerations of the design project.

In some cases, architects support deeper investigations by constructing full-scale mock-ups to test impacts on scale, constructability, or material effect. This following images demonstrates a full-scale mock-up of a Northeastern University’s Mendenhall. The scale of the Spherical Truss, along with its placement on the site, was being tested. Some mock-ups can be made using non-traditional materials to replace the design impact while others require real materials to be tested. The wall detail mock-up is typically constructed of ideal at two scales in the construction technique of masonry and pattern choices relative to the context.

Physical sketching vs. digital sketching
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