

ARCHITECTURAL DESIGN STUDIO V

SYLLABUS

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Do not seek to follow in the footsteps
of the Masters, seek what they sought.

Zen teaching, 8th century

All quality work is simply a continuous
project altered daily.

Robert Morris
The Writings of Robert Morris, 1993

COURSE PHILOSOPHY

The education of an architect must begin with a framework for developing a personal consciousness, an awareness of the ever-changing and growing world around us. This consciousness is not developed by taking what is given and serving it up as a solution to the problem at hand. This consciousness is the result of **deep critical thinking**, the development of astute powers of observation, an attunement to **poetic systemic thinking**, and a desire to become a **creative solver of the problems** our homes, cities, environment, clients, children, etc. face on a daily basis. A great practitioner is conscious to this world and is ready and willing to embrace this aspect of their lives to the point that it spills unconsciously into daily work and professional life. They don't simply replicate our core disciplinary knowledge, but seek to advance it through their own insight, offering new ways of seeing and inhabiting the world. Each student must be encouraged to doubt, question givens, and to generate alternatives to what architecture is today.

Practice is not a verb, it's a noun. Not as something to do, but something you have, something you are. In this sense, the word is akin to the Chinese word "Tao" and the Japanese word "Do," which means literally "a road or path." Practice is the path upon which you travel, just that. Ultimately practice is the path to mastery. A practice (as a noun) can be anything you practice on a daily basis as an integral part of your life; like architecture. If your practice is only a collection of clients, a way of making a living, it isn't a master's practice. For the master, rewards gained along the way are fine, but they are not the main reason for the journey. Ultimately, **the master and the master's path are one.**¹

COURSE METHODOLOGY

This course is an **interactive design studio**; it is about raising questions and rigorously investigating those questions on a daily basis through systemic thinking (the process of understanding how things influence one another within a whole) and **iterative making**. This course is not about doing last minute work leading to an un-synthesized project. Collaborative participation is required of all members of the studio through observation, research, analysis, making, and constructive criticism of your peers.

According to the 2010 publication *Bodies of Knowledge*, there are four primary habits of mind that are necessary for successful learning to occur. These habits are born from traits we possess and in this architectural studio, you must be prepared to exercise all four in order to find success. The first habit is **investigation**. You must be ready and willing to seek out new information and evaluate that information with some intelligence. The second habit is **experimentation**. You must be willing to iteratively work through a problem trying various solutions until success is found. You also must be ready and willing to fail, which many experiments do at first. The third habit is **imagination**. You must have (and exercise) the ability to sense new possibilities and solutions. And the final habit is **reasoning**. You must be able to analyze the ideas, the work, the context, and the situation at hand and critically think through the options available to proceed.

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COURSE STRUCTURE ²

Architectural Design Studio 5 (ADS 5) is a studio-based course primarily consisting of working studio sessions augmented with site visits, presentations, lectures and other discussions, and sketch problems. Course content includes a wide span of topics from theoretical material to technical issues to research initiatives. Throughout the semester students will receive regular advice at their desks from their instructor regarding their work, which will be accompanied by more formalized group pin-ups or reviews. Reading assignments will be made in tandem with the studio project.

This design studio differs from your previous studio experiences in that it is a design development course with a focus on architectural detailing. There is only one project for the semester, which is divided into three phases: Schematic Design, Design Development, and Architectural Detailing.

The **Schematic Design** (SD) phase is similar to previous project cycles that you've experienced. It lasts about five weeks and ends with a review where you present your architectural ideas through drawings and models to invited critics.

The **Design Development** (DD) phase asks you to take your schematic design and continue to develop the project technically and aesthetically. The drawing types and conventions used may mirror those of a construction documentation set at times, but a DD set differs in its objectives and its content and layout are much more flexible. The objective is to convey architectural intentions as clearly and comprehensively as possible. Content produced will include a representative sampling of architectural drawings, from floor plans through details, properly keyed to one another so that the set can be easily navigated. You will choose a limited number of wall sections and details to carefully examine specifically for their capacity to illuminate your architectural intentions. The layout may differ markedly from a CD set. For instance, a partial plan and elevation along with related section and details may all be on the same page. Additionally, drawing types not normally found in a CD set, such as section perspectives or exploded axonometrics, may be included if deemed appropriate. The phase ends with a review where you share your progress with invited professionals who will critique your development.

The **Architectural Detailing** (AD) phase is simply a continuation of design development, but with the focus on architectural detailing. Understanding the difference between normative construction detailing and architectural detailing and how to develop architectural details are the most important lessons for you to learn in ADS 5. This phase ends at Thanksgiving with a submittal, but no review. You'll then spend your remaining time on your final presentation leading to the final review.

NAAB 2014 ASSIGNED COURSE CRITERIA

B.3 Codes and Regulations: *Ability* to design sites, facilities, and systems that are responsive to relevant codes and regulations, and include the principles of life-safety and accessibility standards.

B.4 Technical Documentation: *Ability* to make technically clear drawings, prepare outline specifications, and construct models illustrating and identifying the assembly of materials, systems, and components appropriate for a building design.

C.3 Integrative Design: *Ability* to make design decisions within a complex architectural project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies.

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LEARNING OBJECTIVES

Successful completion of course projects and assignments will provide students with the following:

- The ability to make informed material and assembly choices, particularly as such decisions manifest design intentions;
- The ability to use the building code to locate and apply basic information regarding building placement, volume, fire separation, egress, and assembly, as well as an understanding of how codes affect overall building design;
- The ability to integrate structural, environmental, movement and communications systems with the architectural fabric and design intentions, especially as these relate to health and safety issues, means of egress, and ADA accessibility;
- An awareness of the standards of construction documentation used by the profession and an ability to produce the major types of construction drawings (plans, sections, elevations, and details, among others).
- An understanding of the difference between normative construction detailing and architectural detailing and an ability to develop architectural details.

COURSE REQUIREMENTS

- 1: **Every member of the class will take an active role in ensuring its quality.**
- 2: You are required to be in class on time each day and working productively throughout the scheduled class time **on your studio work**. Other coursework should be performed outside of studio hours. You cannot be late, leave early, run errands or schedule other appointments during class time, etc. The atmosphere will be professional as to not distract others from working productively (including no use of cell phones or broadcast media during class time). You must come prepared and fully equipped each day to work diligently for the entire class period. The classroom will be kept as neat and clean as is possible within the context of the given coursework. You will treat everyone in the studio with respect and dignity.

All student activities in the University, including this course, are governed by the Student Judicial Conduct Code as outlined in the Student Governing Association By Laws, Article V, Section 3, number 2. Students who engage in behavior that disrupts the learning environment may be asked to leave the class.

Source materials for University policies for Student Conduct can be found here: www.k-state.edu/provost/resources/teaching/course.html

- 3: **Attendance is mandatory** during the entire scheduled class time. You are required to notify your instructor of any emergencies or other disruptions to your schedule that would result in your missing a class. Notification should be handled by email (to cschwartz@ksu.edu). Per College policy, excused absences can only be granted for verifiable medical problems (verified by a doctor's note), death of a direct relative, or court appearances/jury duty. Any absence, including excused absences, does not excuse the student from the work expected in the course. Important daily instructions and announcements regularly occur in class and should not be missed - instructors are not responsible for repeating content for missed classes.

Grading for attendance will be as follows: you have one free unexcused absence; each unexcused absence after that will reduce your final semester grade by 3%. Three tardies (being late to class, disappearing for an extended period during class, or leaving early without permission) constitute an unexcused absence. Repeated absences could result in an "F" for your semester grade.

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- 4: You should come to studio with all necessary investigations complete (per faculty instructions) and fully prepared to engage in a critical discussion of your work and its contributions to the larger class investigations. **All process work will contribute to your grade for the project.** Failure to meet intermediate deadlines or requirements for any project will result in a loss of points on the project. Each assignment will require you to adopt a critical position toward the general topics presented and to construct a self-generative method of recording and making that will enable you to develop your insights and ideas into a project that is appropriate to your design intentions.
- 5: **Late work will NOT be accepted.** Incomplete projects will be graded based on work completed by the deadline. All work must be submitted to the instructor in order to receive a final grade for the semester.

Any work that is not ready to present at the beginning of a review will be considered late and will not be presented or reviewed and could result in failure of the project. Projects that are not turned in will receive a zero for a grade. Essentially, this would result in the loss of a commission in a professional setting. See that this does not occur. Continuing to work on a project after the review has begun or after the turn-in deadline will result in a failing grade on the project. **Plotters, laser cutters, or any staff that operates them are not a viable excuse for late work.**

Formal project reviews are significant to your development and so you are required to attend all reviews. You are encouraged to take notes, to participate in discussions, and to assist your peers in pinning up and presenting their work. Active participation in all reviews, from small groups to the final, helps promote a productive learning environment.

- 6: Any act of plagiarism could result in automatic failure of the studio and may result in dismissal from the program per university policy on such offenses. As such, any reference material used in assignments must be sourced properly. University policy states:

Kansas State University has an Honor and Integrity System based on personal integrity, which is presumed to be sufficient assurance that, in academic matters, one's work is performed honestly and without unauthorized assistance. Undergraduate and graduate students, by registration, acknowledge the jurisdiction of the Honor and Integrity System. The policies and procedures of the Honor and Integrity System apply to all full and part-time students enrolled in undergraduate and graduate courses on-campus, off-campus, and via distance learning. The Honor and Integrity System website can be reached via the following URL: www.k-state.edu/honor. A component vital to the Honor and Integrity System is the inclusion of the Honor Pledge which applies to all assignments, examinations, or other course work undertaken by students. The Honor Pledge is implied, whether or not it is stated: "On my honor, as a student, I have neither given nor received unauthorized aid on this academic work." A grade of XF can result from a breach of academic honesty. The F indicates failure in the course; the X indicates the reason is an Honor Pledge violation.

Source materials for University policies for Academic Honesty can be found here: www.k-state.edu/provost/resources/teaching/course.html

- 7: **Time management** is a well-known problem for architecture students. You will need to keep ahead of deadlines by making regular progress on your project rather than doing last minute work. Learning to organize your time is an important part of all courses delivered in the College and in the Department.

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- 8: Directed research and readings will be assigned on an individual basis throughout the semester to support and expand the ideas and issues in your work. You are responsible for hunting down and assimilating these sources into your work in a timely way. You are also responsible for self-guided research into the topics and issues your project pushes towards. Everything will not be handed to you. You must be **highly self-motivated and seek out what you need to succeed** on your own.
- 9: We will have at least one field trip to our project site during the semester. The field trip is mandatory to attend. In addition to our scheduled trip, our site will be close enough to visit multiple times throughout the semester. You will be required to return to the site and the area throughout the semester to gain a more thorough understanding of the place in which you will be designing. It is highly recommended that you experience the area at different times and different days to get a more complete picture of its makeup. Please use safe practices when going to any project site and never go alone. Ideally each trip will be with multiple other members of the studio so that critical discussion of the place can occur in the place itself. Take note of the environment you are exploring and do not put yourself in any sort of risky situation.
- 10: Class discussions and reviews are directed towards establishing a critical discourse of major issues and studio investigations. They are meant to help you to develop your own personal design ideology, theoretical framework, design process, language, and tectonic understanding. You are expected to contribute throughout the semester in these discussions and reviews with regards to your own project as well as those of your classmates. **All criticism will be reflective, not personal.**
- 11: At the end of the semester you will be required to turn in a digital collection of your semester's work. This collection will include all of your project work, the daily evolution and process, and all final representation materials including fully documented physical constructions. Please submit the files on a flash drive. To save on cost, it is fine for more than one student to put his or her files on the same flash drive. All files must be competently organized so a particular file is easy to locate and each file should be clearly labeled so I know what it is. If you start that process from the beginning of the semester you will not have to rename everything at the end. These files are used for accreditation, etc. for the school.
- 12: Each member of the class is responsible for maintaining order and cleanliness in our classroom environment. Problems with maintenance of the room or its furnishings should be reported directly to the department office using a Problem Report form. All furnishings in the building should be used in the way in which they were intended. Avoid cutting or painting on any surfaces not intended to be used for said tasks. Fees will be assessed if you fail to comply with this mandate or leave any portion of the classroom/studio/shop damaged or remove anything from these locations that does not belong to you. All trash must be disposed of per College and University regulations. At the end of the semester, the studio as a whole is responsible for leaving the studio in the same condition it was on day one of class. Each of you is responsible for your own workspace, but all of you are responsible for the studio space.
- 13: If you think you need an accommodation for a disability, aspects of this course, the assignments, the in-class activities and the way the course is usually taught may be modified to facilitate your participation and progress.

Students with disabilities who need classroom accommodations, access to technology, or information about emergency building/campus evacuation processes should contact the Student Access Center and/or their instructor. Services are available to students with a wide range of disabilities including, but not limited to, physical disabilities, medical conditions, learning disabilities, attention deficit disorder, depression, and anxiety. If

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you are a student enrolled in campus/online courses through the Manhattan or Olathe campuses, contact the Student Access Center at accesscenter@k-state.edu, 785-532-6441; for K-State Polytechnic campus, contact Academic and Student Services at polytechnicadvising@ksu.edu or call 785-826-2974.

Source materials for University policies for Students with Disabilities can be found here: www.k-state.edu/provost/resources/teaching/course.html

- 14: A student's projects, assignments, presentations and models, may be retained by his or her instructor for display, use in teaching, course records, accreditation documentation, or other academic or pedagogical purposes. Students will, however, be permitted to photograph or otherwise record/copy any work retained by the faculty.
- 15: Kansas State University is committed to providing a safe teaching and learning environment for student and faculty members. In order to enhance your safety in the unlikely case of a campus emergency make sure that you know where and how to quickly exit your classroom and how to follow any emergency directives. Additional campus emergency information may be found at: www.k-state.edu/onestop/healthsafety/safety/.
- 16: Kansas State University prohibits the possession and use of firearms, explosives, and other weapons on any University campus, with certain limited exceptions, which include use of weapons as part of approved University Programs, use of weapons by law enforcement personnel, and the lawful concealed carrying of handguns, as provided in the weapons policy, which may be found at: www.kstate.edu/police/weapons/index.html. To ensure students understand the requirements related to concealed handguns on campus, students are encouraged to take the online Weapons Policy Training module (www.k-state.edu/police/weapons/index.html).
- 17: **Ask questions!!!!** If you do not know something, are unsure about something, feel lost, etc., etc. please hunt me down during class, during office hours, or if you happen to see me in the hallway and I have a moment to chat.

EVALUATION

Please take note that final presentations (which make up only a portion of the design problems) are not the only graded item of the semester. I will make every effort to get grades to you promptly; you will get them as soon as I finish evaluating your work appropriately (so no need to ask about when, when, when...). Your grades will be posted on Canvas or distributed via e-mail to ensure your privacy. If you believe you deserve a higher score on an assignment/project than you received, please submit in writing to me a detailed description of your reasoning and I will take it into account. In this text, you may not refer to any of your classmates work or their grades; doing so will immediately result in dismissal of the request. No extra credit will be available in this class and no late work will be accepted without appropriate reasoning.

Within this studio, your work will be carefully examined, discussed, evaluated and graded. Grades create an index of a relative standing against a standard or norm for a particular peer group's work. Factors influencing your grade include, but are not limited to:

- the degree to which your work demonstrates an understanding of and an engagement with the objectives of the studio, and the degree to which it exceeds the minimum requirements,
- a willingness and ability to initiate self-directed research in support of your work,
- an ability and willingness to contribute, through your individual efforts, knowledge and

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One could be sure that in the past when a man would rise to the point of producing work of greater quality, it was not through any conscious attempt to excel but rather because he cared about what work he was doing - he was committed to his work. This has become something rare - because being committed means becoming involved and to become involved means giving something of oneself. It is only the rare ones today who seem to care that much. Yet, that quality that makes for excellence - that commitment is more important to us today on a daily operational basis than perhaps ever before. At least one of the reasons this is true is quite simple. The nature of the problems we face changes even as we work with them. We cannot tell from what disciplines or from what art of preparation for the next step will come. We cannot fall back on the lore of the art because that lore does not exist. There is however, a tradition that is held in common by natural philosophers, explorers, pioneer woodsmen - anyone who is in his daily life has been compelled to face new problems. That is tradition of respect and concern for the properties and the quality of everything in the world around them. To excel in the structuring of a problem we must be committed to a concern for quality in everything in the world around us. **We must learn to care deeply.**

Charles Eames, "Excellence"
(bold added for emphasis)

- understanding in the subject areas,
- timely completion of assignments,
- successful communication of your intentions to others (quality + thoroughness),
- attendance,
- an ability to contribute to the overall course experience (teach, learn from, inspire, thoughtfully provoke your colleagues and your instructor).

Please note that **hard work, although critical to success, does not guarantee any sort of success.** The same goes for being in class every day and turning everything in on time. The number of all-nighters you have pulled will not directly affect your grade. Below you will find the grading criteria that will be used in this course:

"A" | Fully Exceeds all Expectations

Not only fulfills the objectives of the course syllabi and project statements, but extends them through new discoveries and insights beyond their stated scope. These students demonstrate a high degree of professional dedication, rigor, passion and skill for research and exploration, open-mindedness and resourcefulness. They have developed an ability to build upon feedback from a variety of sources, and to excel with an emerging independent "voice". Their work is rigorously thought through, well crafted, and clearly communicates the breadth and depth of their investigations. An "A" project is one that is superior in a number of dimensions.

"B" | Generously Fulfills Expectations

Meets the stated objectives of the course syllabi and project statements, while also elaborating on the stated issues through independent investigations that lead to developments in the work. These students demonstrate a medium degree of professional dedication, inquisitiveness, systematic rigor and resourcefulness. They are developing an ability to build upon feedback from a variety of sources and are beginning to develop an independent "voice". Their work is competently thought through, well crafted, and clearly communicates the breadth and depth of their investigations. A "B" project is one that distinguishes it from the average.

"C" | Minimally Meets Expectations

Minimally meets the basic requirements of the studio syllabi and project statements, without meeting the larger qualitative objectives. These students demonstrate a low degree of professional dedication and require constant guidance. While demonstrating an understanding of the problem, basic design and communication skills are minimally met. Time management and the breadth and depth of the student's investigations are lacking. There is little or no evidence of an emerging "voice", and the ability to develop an independent direction to the work. Although reasonably well crafted the work does not communicate inquisitiveness, systematic rigor and resourcefulness. A "C" project is one that is average and acceptable.

"D" | Does Not Meet Most Expectations

Deficient work does not meet many of the basic requirements and objectives of the studio. The work is often fragmentary, lacking synthesis, incomplete, and thought of as simply fulfilling an assignment due on a particular day rather than an opportunity to develop as a designer. These students generally suffer from the following deficiencies: lack of professional dedication, a closed-minded attitude, lack of time management skills, lack of basic professional design and communication skills. As in any professional office, deficient work is not acceptable.

"F" | Fails all Expectations

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REQUIRED TEXTS

Allen, Edward and Joseph Iano. *The Architect's Studio Companion: Rules of Thumb for Preliminary Design*. 6th ed. Hoboken, N.J.: Wiley, 2017. (other editions are also acceptable, although the more recent the better)

Ching, Francis D. K. *Building Construction Illustrated*. 5th ed. Wiley, 2014. (other editions are also acceptable, although the more recent the better)

Ching, Frank, and Steven R. Winkel. *Building Codes Illustrated: A Guide to Understanding the 2015 International Building Code*. vol. 2. Hoboken, N.J.: Wiley, 2016. (the city of Manhattan uses the 2015 IBC, so keep that in mind)

RECOMMENDED DESIGN RESOURCES

Ching, Francis D. K. *Architecture: Form, Space, & Order*. 2nd ed. New York: Van Nostrand Reinhold, 1996.

Holl, Steven, Juhani Pallasmaa, and Alberto Perez-Gomez. *Questions of Perception: Phenomenology of Architecture*. San Francisco: William Stout Publishers, 2006.

Krupinska, Jadwiga. *What an Architecture Student Should Know*. Translated by Scott Danielson. New York: Routledge, 2014.

Pressman, Andrew. *Designing Architecture: The Elements of Process*. New York: Routledge, 2012.

Unwin, Simon. *Analysing Architecture*. 4th ed. New York: Routledge, 2014.

von Meiss, Pierre. *Elements of Architecture: From Form to Place*. New York: Spon Press, 2006

Zumthor, Peter. *Atmospheres*. Boston, Massachusetts: Birkhauser, 2006.

Zumthor, Peter. *Thinking Architecture*. 2nd ed. Boston, Massachusetts: Birkhauser, 2006.

RECOMMENDED TECHNICAL RESOURCES

Allen, Edward. *Architectural Detailing: Function Constructibility Aesthetics*. New York: Wiley, 1993.

Allen, Edward, and Joseph Iano. *Fundamentals of Building Construction: Materials and Methods*. 4th ed. Hoboken, N.J.: John Wiley & Sons, 2004. (or other edition)

Bassler, Bruce. *Architectural Graphic Standards: Student Edition*. Hoboken, N.J.: Wiley, 2008.

Ching, Frank. *Building Structures Illustrated: Patterns, Systems, and Design*. Hoboken, N.J.: Wiley, 2009.

Deplazes, Andrea. *Constructing Architecture: Materials, Processes, Structures*. 2nd ed. Birkhäuser Architecture, 2008.

Hegger, Manfred, Hans Drexler, and Martin Zeumer. *Basics: Materials*. 1st ed. Basics. Birkhauser, 2007.

Herzog, Thomas, Roland Krippner, and Werner Lang. *Facade Construction Manual*. 1st ed. Birkhäuser Architecture, 2000.

Knaack, Ulrich, Tillmann Klein, Marcel Bilow, and Thomas Auer. *Facades: Principles of Construction*. 1st ed. Birkhäuser Architecture, 2007.

Lovell, Jenny. *Building Envelopes: An Integrated Approach*. Princeton Architectural Press, 2010.

McMorrough, Julia. *The Architecture Reference and Specification Book: Everthing Architects Need to Know Every Day*. Beverly, Massachusetts: Rockport Publishers, 2013.

Moe, Kiel. *Integrated Design in Contemporary Architecture*. 1st ed. Princeton Architectural Press, 2008.

Neufert, Ernst, Peter Neufert, and Johannes Kister. *Architect's Data*. Translated by David Sturge. West Sussex: Wiley Blackwell, 2012.

Pena, William M. *Problem Seeking: An Architectural Programming Primer*. Hoboken: John Wiley & Sons, Inc., 2012.

Watts, Andrew. *Modern Construction Envelopes*. 1st ed. Vienna, Austria: Springer-Verlag, 2010.

Watts, Andrew. *Modern Construction Handbook*. 2nd ed. Vienna, Austria: Springer-Verlag, 2010.

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RECOMMENDED ENVIRONMENTAL RESOURCES

- Brown, G. Z., and Mark DeKay. *Sun, Wind & Light: Architectural Design Strategies*. 2nd ed. Wiley, 2000. (or other edition)
- Kwok, Alison, and Walter Grondzik. *The Green Studio Handbook: Environmental Strategies for Schematic Design*. 2nd ed. Architectural Press, 2011.

RECOMMENDED DIAGRAMMING RESOURCES

- Balmer, Jeffrey, and Michael T. Swisher. *Diagramming the Big Idea: Methods for Architectural Composition*. New York: Routledge, 2013.
- Borden, Gail Peter. *Process: Material and Representation in Architecture*. New York: Routledge, 2014.
- Clark, Roger H., and Michael Pause. *Precedents in Architecture: Analytic Diagrams, Formative Ideas, and Partis*. 4th ed. Hoboken: John Wiley & Sons, Inc., 2012.
- Di Mari, Anthony. *Conditional Design: An Introduction to Elemental Architecture*. Amsterdam: BIS Publishers, 2016.
- Di Mari, Anthony, and Nora Yoo. *Operative Design: A Catalogue of Spatial Verbs*. Amsterdam: BIS Publishers, 2015.
- Radford, Antony, Amit Srivastava, and Selen Morkoc. *The Elements of Modern Architecture: Understanding Contemporary Buildings*. London: Thames & Hudson, 2014.
- Schwartz, Chad. *Introducing Architectural Tectonics: Exploring the Intersection of Design and Construction*. New York: Routledge, 2016.

RECOMMENDED PRESENTATION RESOURCES

- Ambrose, Gavin, and Paul Harris. *Basics Design 02: Layout*. Switzerland: AVA Publishing SA, 2011.
- Lewis, Karen. *Graphic Design for Architects: A Manual for Visual Communication*. New York: Routledge, 2015.
- Samara, Timothy. *Making and Breaking the Grid: A Graphic Design Layout Workshop*. Beverly, Massachusetts: Rockport Publishers, 2002.

RECOMMENDED TECTONIC + DETAIL RESOURCES

- Ford, Edward. *The Architectural Detail*. New York: Princeton Architectural Press, 2011.
- Ford, Edward. *The Details of Modern Architecture, Vol 1 & 2*. Cambridge: MIT Press, 1990.
- Frampton, Kenneth. "Botticher, Semper and the Tectonic: Core Form and Art Form." In *What Is Architecture?*, edited by Andrew Ballantyne, 138-52. New York: Routledge, 2002.
- Frampton, Kenneth. *Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture*. Cambridge: The MIT Press, 2001.
- Frascari, Marco. "The Tell-the-Tale Detail." In *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory 1965-1995*, edited by Kate Nesbitt, 500-14. New York: Princeton Architectural Press, 1996.
- Porphyrios, Demetri. "From Techne to Tectonics." In *What Is Architecture?*, edited by Andrew Ballantyne, 129-37. New York: Routledge, 2002.
- Schwartz, Chad. *Introducing Architectural Tectonics: Exploring the Intersection of Design and Construction*. New York: Routledge, 2016.
- Sekler, Eduard. "Structure, Construction, Tectonics." In *Structure in Art and Science*, edited by Kepes, Gyorgy, 89-95. New York: Braziller, 1965.

ENDNOTES

¹ Paragraph is paraphrased from a syllabus written by a former professor at Arizona State University, Max Underwood.

² Course Structure Statement is paraphrased from a syllabus written by Kansas State University professor Michael McGlynn.