DESIGN TASKS AR501

1 essay, model, drawing: (research mapping, narrative and organization)
2 case studies: (typological analysis and comparative organization)
3 programming: (spatial, environmental, perceptual)
4 contextual analysis: (site, documentation, observation)
5 conceptual development options: (physical investigations, architectural form, use)
6 final research document: (basis of design, design value system)
1. Research Mapping, Narrative and Organization

ESSAY: PRE-DESIGN RESEARCH- topic Selection / Critical Position

Develop and use a consistent format throughout the Research Document. Provide references and document sources for all information cited using the American Psychological Association (APA) format.

INTENT: This quarter will amount to the production of a project trajectory and text w/graphic illustrations compiled into a final research document. First, we will work to define a basic direction for your thesis, and then establish a clear research essay for moving into architectural design. Graphic representation and visual thinking are to be seen as integral, critical, and creative extensions of your process (occurring alongside), as well as heuristic devices that help to communicate your work to others. Although many possible design methodologies exist, the integration of previous architectural studies is very important. You will need to start self-organizing and solidify your own project schedule in order to map out the quarter’s deliverables.

DESCRIPTION: The Research Essay will act as a brief history, problem and thesis statement outlining your topic for future readers. Here you will establish a design rationale with clear goals, concise outcomes, and objectives formulated from a well-educated critical position. Imagine this as a framework for containing a philosophical world-view, of which both your research and design project will carry forward. Remember to remain porous, dig deeply into sources, and be aware of both the evolving and subjective nature of a design thesis. Understand, that while your critical position informs an investigative effort based on your personal beliefs, goals, and a clear rationale, that knowledge may also be gained through informal sources and common sense. Developing a strong background for your topic and evidence of it, as being directly acted upon in space, i.e., occurring within the built environment and affecting the study of architectural history .... becomes paramount.

FORMAT: 3-page (minimum) written essay containing the following:

• Introduction with a general description and background for the research topic and project. This should be a critical, cited, and a concise history of an issue related to the built environment.
• Rationale or explanation outlining your basic goals and objectives in undertaking this work and why it applies to the study of architecture. This should point towards feasible cases of which you plan to study / apply specifics further.
• Critical position from which you will develop the project, describing your particular view or a perspective you plan to examine. This should begin to unveil your personal interest and anchor clear design ambitions / future professional pursuits.
• Outline of how social, environmental, technical and aesthetic objectives inform your critical position and research methodology. This should include a well-researched perspective that will act as an ever-growing survey of material for shaping your thesis arguments (begin constructing an review of literature here – 5-sources).
• Discussion of evaluation criteria to review your design as well as the research document contents relative to your topic’s core statements (please list in bullets): Problem Statement, Critical Position, Thesis Statement.

MODEL / DRAWING: PRE-DESIGN IMAGE- Visual thinking concerning your Critical Position

What are the visual consequences of your textual research? What actors, agents, vernaculars, materials and spaces are at play?

INTENT: This exercise is meant to expand as well as synthesize your thesis’s system of inquiry as it relates to visual learning. By way of thinking through making, work loosely to explore as well as refine your critical position, problem statement, potential case studies, and much more; the philosophical underpinnings of a specific issue/interest. This is your first chance to employ your design thinking toolkit, so please work to evoke a highly analytic visualization and/or a gestural representation that can help others grasp the nature of your research. Focus directly upon the core issues that have inspired you to start this project, and explore how you might establish a broader way of thinking; promote differing views.

FORMAT: 1- Physical Model & 1-Drawing, which will serve as analogues; depicting events, motifs, actors / agents, issues, materials, structures, etc . . .
DUE: 5th Week

5 Unique Case Studies comprised of drawings, digital graphics, and text exploring project data, programmatic layout, economic and site factors, which help to synthesize your research problem. Provide a conclusive written analysis as to how these cases may inform your project.

2. Typological Analysis and Comparative Organization

CASE STUDIES:

Develop and use a consistent format throughout the Research Document. Provide references and document sources for all information cited using the American Psychological Association (APA) format…

INTENT:

Case Studies, or Typological Analysis in the case of buildings, identifies, documents, and analyzes comparative design characteristics considered unique to the building type selected based on formal organizational patterns ("Ordering Principles" handout). This analysis recognizes precedents or formative patterns that can reveal archetypal concepts that designers can learn from and refer back to in similar conditions.

This project relies on both text and graphics to communicate research data. Graphic images, in the form of original drawings and analytical diagrams, as well as a conclusive written analysis of what exactly is being evidenced, are crucial to any successful case study. They represent both creative and analytical expressions of the insights and observations resulting from your research.

DESCRIPTION:

With the instructor’s approval select three buildings, consistent with the programmatic functions of your selected thesis (tectonic, social, environmental, economic, etc) for use as case studies to inform the design process and help you better understand the nature of the problem you are investigating. NOTE: One building should be contextual, that is, located in the same geographic region as your project. Your other two case studies must include issues related to built environment exemplar of your research problem as an architectural concern. In certain cases it may be prudent to select subject matter other than the aforementioned to better understand issues relevant to your thesis. Please discuss this with your instructor to determine what is deemed acceptable subject matter for a case study.

CONTENT:

Prepare a graphic analysis for each building or subject selected and provide the following information as outlined below. Each case study should flow logically allowing one to “walk” through the project understanding the environmental, spatial as well as formal development of the building. Although each building will be analyzed independently, a comparative analysis outlining similarities and differences between buildings is also required.

FORMAT:

At minimum the following must be included:

Project Data:

Project Name / Architect / Location / Latitude / Climate Zone / Year Completed

Written Rationale:

Indicate why each building represents an appropriate subject for study

Program Description:

Hierarchy of Uses / Size / Area / Architectural Style / Design Parti / Spatial Organization / Physical Context / Key Site Factors

Graphic Data:

Vicinity Map / Site Plan / Floor Plan(s), Elevation(s), Building Section(s) / Descriptive Photographs / Sketches Interior and Exterior

*Provide a series of sketch models and or hybrid drawings as necessary to convey your understanding of how the following systems inform your knowledge of architecture after analyzing the selected buildings. Express the following systems:

Ordering Systems:

Context, Geometry / Massing

Other Analytical Diagrams:

Program / Spatial Organization / Structure / Service Systems / Circulation / Enclosure / Materials
USEFUL SOURCES:

- Thinking About Typology (Supplement)
- Ordering Principles (Handout)
- Visual Explanations: Images and Quantities, Evidence and Narrative
  Edward R. Tufte
- Envisioning Information
  Edward R. Tufte
- Precedents in Architecture
  Roger H. Clark & Michael Pause
- Idea, Form, and Architecture: Design Principles in Architecture
  Egon Schirn Beck
- Elements of Architecture: From Form to Place
  Pierre Vatt Mads
- Design A Analysis
  Bernard Leupan
- Design Strategies in Architecture: An Approach to the Analysis of Form
  Geoffrey Baker
- An Architectural Notebook
  Simon Urrain
- AIA website for Case Study Initiatives
- USC website for Research Computing Facility www.rcf.usc.edu
- Go to Kim Coleman then to Student Precedent Studies
Thinking About Typology: (supplement)

“One of these things is not like the others, one of these things doesn’t belong…” Sesame Street Song

TYPE: A kind, class or group distinguished by some particular characteristic . . .
The general form, structure, style or character common to a particular class . . .

TYPOLOGY: The systematic classification of types distinguishing the similar from the dissimilar.

Why investigate typology?
Although things may be different, we recognize similarity and understand what we see through the classification of differences. Typology embodies design principles considered unvarying. Types allow a comparative examination of how architects addressed problems similar to those you will face in developing your specific thesis project.

Design is (a) decision-making (process), and the key to successful projects lies not only in the final form but also in the process leading up to it. Poor design decisions can be costly to correct or have lasting social implications. The design of the process must be as carefully considered as the design of the form.

Architecture is a working product that we live and work in and use in everyday life. It is important to experience architecture as a process, not just as a series of one-off individual buildings, which however dramatic, sharp edged and gestural they may be, do not form the common currency of our environment or culture.

We do not create an infinite variety of spaces…we structure environments through categories of space. Typing space is a spatial practice that structures society and is structured by society. Our spatial practices elaborate systems of place types that impose distinctions and separations between activities, people and place itself. These spatial practices are codified into regulations and codes.

Spatial types are a social construction we take for granted…they further certain values and interests while restricting others and enforcing patterns of domination and destruction yet they allow us to see what is and provide insight into what can be thus empowering us and liberating design.

Examination of types through case study analysis allows you to transform past knowledge into practical use. Type may be used to study buildings, building components or organizational principles allowing us to apply knowledge about past solutions to current architectural problems.

Lou Kahn, when asked what the most important thing to know was, responded “to know what is important.” And then qualified knowing as a matter of experience and gray hairs.

“It is in making of worlds that we learn to reinvent the world and in the creation of new places, both good and bad, that we consciously and unconsciously draw upon our knowledge of the places that already exist. In making places, as in all of art and culture, we make plans for the future, for what is not yet in existence, and always with only knowledge of the past and what is. In truth, all that we can know is memory. The rest is imagination.” - Laurie Olin
Thinking About Ordering Principles: (handout)

Architecture does not exist…an act of architecture created through the process of design and construction is an offering to the spirit of architecture. - Kahn

Ordering systems provide a methodology for examining fundamental characteristics that assist the design process and shape buildings. They inform how we come to understand buildings based on how they work (perform) and how we use them. Ordering systems provide a basis from which to discuss the design process and how the circumstantial act of design extends these characteristics beyond shear necessity, shelter, or safety to “touch the heart” allowing buildings to become “an offering to the spirit of architecture.”

Buildings gain significance only as these characteristics are assembled and expressed through the act of design. While the following characteristics provide formal devices for assembling buildings they do not, in themselves, provide conceptualizations or ideas about how architecture is made. Buildings can be deconstructed into eight fundamental physical characteristics or systems as follows:

- **CONTEXT**  
  micro and macro site conditions
- **PROGRAM**  
  spatial, environmental, perceptual requirements
- **SPACE**  
  essence of architectural habitation
- **CIRCULATION**  
  means of moving through space
- **GEOMETRY**  
  formal arrangements of space
- **ENCLOSURE**  
  walls, floors, roofs, and openings defining space
- **SERVICES**  
  building systems supporting human occupancy
- **STRUCTURE**  
  order of construction through force resolution

Ordering Systems act as building blocks that can be used to shape an emerging idea or conceptualization about architecture and how that idea speaks to larger issues such as:

- **CLIENTS**  
  USERS
- **ENVIRONMENT**  
  RESOURCES
- **BUDGET**  
  REGULATIONS
- **CULTURE**  
  LAWS OF NATURE

The construction of buildings is both creative and destructive in relation to the natural and cultural world. *Something must be lost in order for something to be gained.* The buildings we design will modify our relationship with the:

- **PHYSICAL**  
  **CLIMATE**  
  *impacting*  
  **NATURAL**  
  **CLIMATE**  
  *impacting*  
  **HUMAN**
- **CULTURAL**  
  **CLIMATE**  
  *impacting*  
  **BEHAVIOR**
DUE: 8th Week
1 Comprehensive architectural program, project details, list of spaces (served, servant, etc), and ordering determinants. To be derived from contrasting previous typological analysis with the above criteria, and working towards establishing usable / concrete building functions, sq footages, or other researched factors helping to define your speculative thesis project.

3. Programming Criteria (spatial, environmental, perceptual)

Develop and use a consistent format throughout the Research Document. Provide references and document sources for all information cited using the American Psychological Association (APA) format…

SPATIAL:

INTENT: Programming is a pre-schematic design research activity (an “information gathering process”) that establishes building requirements in a systematic and organized way allowing for a clear understanding of the nature of the problems associated with a particular building typology. The program identifies functional, operational, and equipment requirements along with spatial adjacency relationships including physical and cultural site factors. Programming can describe spatial, environmental, and perceptual criteria as well.

DESCRIPTION: This exercise is the first part of preparing a Building Program for use during the schematic design process. Your Program, a critical component of your research, should address the following content: functional needs, area / volume requirements, equipment, furnishings, building operations, special systems, site requirements and services. Include maps, charts, sketches and drawings, photographs, analytical bubble diagrams and matrices as necessary to communicate a complete understanding of the functional and spatial requirements for both building and site.

CONTENT: Prepare a building program addressing the following:

• Site Requirements
  - Access / Parking
  - Service / Fire / Other
• Spatial Requirements
  - Size / Area
  - Volumetric Analysis
• Spatial Requirements
  - Public / Private Relationships
  - Interior / Exterior Relationships
  - Space Adjacency Relationships
  - Special Functional Needs
  - Fire Safety / Accessibility
• Graphics
  - Lists / Flow Charts / Matrixes
  - Bubble Diagrams
  - Zoning / Stacking Diagrams
  - Circulation / Exiting

Provide north arrows, graphic scales, legends, titles, and photo / sketch orientation references necessary to communicate data clearly. Summarize information in graphic and text format for the categories referenced above.

“I believe the architect’s first act is to take the program that comes to him and change it. Not to satisfy it, but to put it into the realm of architecture, which is to put it into the realm of spaces. It is the duty of the architect to find what is a thoughtful realm of spaces…Spaces which form themselves into a harmony good for the use to which the building is to be put.”

Louis I. Kahn

“Architecture goes beyond utilitarian needs…. Passion can create drama out of inert stone.”

Le Corbusier

USEFUL SOURCES:

Architectural License Seminars Pre-Design 2
Lesson Four: Diagramming Space Adjacency Information

Space Adjacency Analysis
Edward T. White

Architectural Programming: Information Management for Design
Donna P. Duerk

Programming for Design: From Theory to Practice
Edith Cherry
ENVIRONMENTAL:

INTENT: Environmental Criteria identifies the sustainable characteristics you deem essential to your thesis establishing energy conservation techniques, and sustainable considerations as part of your design process.

DESCRIPTION: Identify how the proposed design will respond to the following:

1. **Sustainable Design Intent:** Describe how the thesis embraces ecological circumstances or seeks to steward natural resources
2. **Regional / Community Design:** Identify how the thesis recognizes unique cultural and natural character
3. **Land Use / Site Ecology:** Describe how the thesis responds to its ecological context
4. **Biotic Design:** Identify how the thesis recognizes natural flows and cycles through passive design strategies
5. **Materials and Construction:** Develop criteria for selecting sustainable products, materials, assemblies, and systems.

Directions at this stage regarding “form, space, and materials” will impact how site-conscious your project can become. Geometry, orientation, circulation, and massing all influence opportunities to harvest solar and wind energy, incorporate daylighting and natural ventilation, apply energy and water conservation techniques, and incorporate on-site energy production.

FORMAT: The essence of this exercise is to incorporate sustainable design measures in your conceptual response to both site and program. The project should incorporate text, drawings, diagrams, and examples as necessary to communicate your design intentions.

“Architects have a vital role as advocates of sustainable design solutions. Sustainability requires us to think holistically: the location and function of a building; its flexibility and life-span; its orientation; its form and structure; its heating and ventilation systems, and the materials used, all impact upon the amount of energy used to build, run and maintain it.” — Norman Foster

“The very purpose and nature of learning should evolve from what is largely a celebration of human intelligence toward a sensibility that seeks to replace dominion over nature with a more fulfilling relationship between humanity and the natural world.” — William McDonough

“The design of buildings and landscape is thought to have little or nothing to do with the process of learning or the quality of scholarship that occurs in a particular place. But in fact, buildings and landscapes reflect a hidden curriculum that powerfully influences the learning process. The curriculum embedded in any building instructs as fully and as powerfully as any course taught in it.” — David Orr

USEFUL SOURCES:

- Design with Nature, Ian McHarg
- Design with Climate, Victor Olgyay
- Cradle to Cradle, William McDonough
- The Making of Green Knowledge, Andrew Jamison
- Reorganizing the Built Environment, Charles Kilbert
- The Nature of Design, David Orr
- Heating, Cooling, and Lighting, Norbert Lechner
- Ritual House, Ralph Knowles
- Architecture in a Climate of Change, Peter Smith
- High-Performance Buildings, Vidar Lerum
PERCEPTUAL:

INTENT:

Perceptual Criteria characterizes experiential qualities and aesthetic character reflected in the nature of your building. Understanding how people perceive and experience spaces (rooms, buildings, groups of building, sites, plazas, streets, urban space) is crucial to understanding architecture as a “sensual social art responsive to real human desires and feelings.”

This project will focus on “the senses considered as a perceptual system.” Examining sensory systems during programming assists in establishing criteria for creating spaces that go beyond mere construction, spaces that “touch my heart.”

DESCRIPTION:

Addressing the aesthetic experience of the built environment allows us to understand the “meaning of things” through sensory knowing (versus cognitive knowing) leading to a more holistic sense of awareness by expanding our “schema” or understanding of the world.

CONTENT:

Although primarily graphic in nature, this project can rely on cultural information, or text in the form of prose or poetry in conjunction with graphic images, to express the qualities your design might elicit within the user. Examine multiple connections through trans-disciplinary research. Investigate and apply techniques from related art disciples such as painting, sculpture, and literature in the form of assemblage, collage, and abstract processes to express the desired experiential character of your building.

Graphics may include original drawings, paintings, models, and collage and constructs in the form of “architectural embryos” to describe the mood and feeling of your spaces and in turn give meaning to the lives and shape the experiences of the building users.

“You employ stone, wood and concrete, and with these materials you build houses and palaces; that is construction. But suddenly you touch my heart...and I say: ‘This is beautiful.’ That is architecture.”
Le Corbusier

“We believe that until we can begin to understand how buildings affect individuals and communities emotionally, how they provide people with a sense of joy, identity, and place, there is no way to distinguish architecture from any everyday act of construction.”
Kent C. Bloomer and Charles Moore

USEFUL SOURCES:

Creating Architectural Theory
Jon Lang

American Building: Environmental Forces That Shape It
James Marston Fitch

The Meaning of the Built Environment
Amira Rapoport

An Architectural Notebook
Simon Unwin

Elements of Architecture
Piers von Meise

Sensory Design
Joy Monice Malnar and Frank Vodvarka

Eyes of the Skin: Architecture and the Senses
Johann Palawmsek

Architecture and the Body
Ed - Scott Mcshane

Environmental Psychology for Designers
David Koeper

The Senses Considered as a Perceptual System
James J. Gibson

The Poetics of Space
Gaston Bachelard
DUE: 8th Week

The comprehensive contextual analysis of 2 unique sites of interest. To be selected based on your research essay’s problem occurring detectably within space, or obvious cultural and environmental factors stemming from your critical position. Graphically expressed via a combination of hand drawn and digital techniques; you must show your speculative building program layout comparatively across both sites. Provide a conclusive written analysis of pros vs. cons.

4. Contextual Analysis

INTENT: Contextual Analysis inventories, records, analyzes, and diagrams the physical and cultural site factors inherent within a project’s context. Its purpose is to better inform your design process by making apparent otherwise hidden variables that are location specific to your thesis’s problem statement. Here, a comprehensive understanding of both the opportunities and constraints available to the designer must be mapped-out visually.

DESCRIPTION: Contextual Analysis allows designers to comprehend the physical and cultural implications of a selected site and in turn communicate a given project’s needs, unique opportunities, and/or limitations. Site data should be collected, analyzed, diagrammed, and communicated in a relevant and logical manner employing both methods of visual storytelling and data visualization.

Analyzing the site is part of an architect’s due diligence and necessary to insure a thorough knowledge and understanding of the physical conditions and cultural implications from which to make rational design decisions. The process implies responsibility on the part of the designer to know and understand the “affordance” a particular site offers the user, program, and project’s life cycle.

CONTENT: Contextual Analysis results in graphic and textual documentation of the proposed site and surrounding context. It’s a critical component of your design research process that is meant articulate useful factors that will co-determine your design decisions.

Use text and graphics, photographs, maps, charts, sketches, original drawings, and analytical diagrams, as creative expressions of your observations, insights, and understanding about the proposed site for your thesis project. Consider this visual research as a basis for providing insight into a site’s issues and a future design’s value system. Understanding that spaces are built of over time, please engage observantly at your site (if possible) examining its commonsense attributes. Additionally, consult institutions such as local historical societies to establish a broader (regional) context for its development. Prepare a formal study expressing the following site factors at minimum:

- Location / Neighborhood Context
- Size / Zoning / Legal Issues
- Natural Physical Features
- Macro / Micro Climate including Solar Geometry
- Man Made Physical Features
- Circulation / Access / Infrastructure
- Cultural Characteristics
- Sensory Characteristics

*“Being mindful of both consistency and your client/audience please provide north arrows, graphic scales, legends, titles, captions and photo / sketch orientations as required to communicate clearly the collected data. Summarize information into both a graphic and textual format for each of the site factors referenced above.

“It is a decision coming from commonality that you choose a place out of all places to build where others can also settle. It is a very important decision…this decision of the placing of a building, which has never been there before.”

“...a building and its site should complement each other well enough to appear as though they were created for each other.”

Louis I. Kahn

“When we dwell in a place we are simultaneously located in space and exposed to a certain environmental character. Two psychological functions are involved…orientation and identification. To gain an existential foothold in the world we need to orient ourselves in space and identify with our environment.”

Christian Norberg-Schultz
USEFUL SOURCES:

Site Analysis
Edward T. White

Architectural Graphic Standards
AIA

Pre-Design 2
ALS Study Guide

Site Planning
Kevin Lynch

Sun, Wind & Light
K. R. Brown / Mark DeKay

Design with Nature
Ian L. McHarg

Creating Architectural Theory
Jon Lang

Design & Analysis
Bernard Leupen

Taking Measures: Across the American Landscape
James Corner / Alex S. MacLean

Green Architecture and the Agrarian Garden
Barbara Stauffacher Solomon

Good Mourning California
Barbara Stauffacher Solomon
DUE: 11th Week

3 conceptual design options (site plan, program layout, massing, and descriptive vignettes / physical models for each); representations must indicate scale, orientation, and material.

5. Concept Development Options

Develop and use a consistent format throughout the Research Document. Provide references and document sources for all information cited using the American Psychological Association (APA) format…

INTENT: Conceptual development exercises are meant to provide the first physical investigation into architectural form generation for the thesis project. This exercise should merge ideas growing out of your understanding of the site and program along with your critical position and thesis statement to form an expression of your design methodology into three-dimensional form.

DESCRIPTION: This is the most critical component of your research tasks as it sets the groundwork for the future design and development of your thesis. Consider how the spatial, environmental, and perceptual relationships of site and program can inform and develop an overall design concept through hybrid modeling or meta-diagramming.

CONTENT: Develop a series of three conceptual study models w/drawings that integrate information and data from the contextual analysis and program development tasks along with information and knowledge gained through research methods three possible directions for the design portion of the thesis. Provide conclusive analysis of these studies responding your two sites.

“Concepts are tools for making design decisions at every scale and stage of the design process.”

“A concept is an idea about the appropriate relationship between the parts of a project – the important, useful, functional, aesthetic, or noteworthy parts.”

Donna P. Duerk

“Form is what (to do), Design is how (to do it).”

Louis Kahn

USEFUL SOURCES:

Architectural Programming: Information Management for Design, Donna Duerk

Design and Analysis, Bernard Leupen
DUE: 11th Week
Final draft research essay with conceptual model and drawing, five complete case studies from typological analysis, synthesized architectural program, contextual analysis of two unique sites minimum, three conceptual design options (site plan, program layout, massing, and descriptive vignettes for each).

5. Research Document
Develop and use a consistent format throughout the Research Document. Provide references and document sources for all information cited using the American Psychological Association (APA) format…

INTENT:
The pre-design research material developed throughout this course will be of great assistance when compiled into a well-organized Research Document. It will provide a reference point and sourcebook for the design studio portion of the thesis (AR502 and 503). It forms the Basis of Design for the studio and will be part of the final thesis documentation. The Research Document demonstrates awareness, understanding, and ability to write effectively and employ appropriate graphic media to express your comprehensive analysis and evaluation of the research tasks.

DESCRIPTION:
The final document combines five individual tasks developed over the course of the quarter. This material may be revised or recomposed as necessary to comply with your thesis format. Document organization follows the outline presented below incorporating ALL relevant information uncovered during the research studio. When appropriate, additional work from outside courses may also be included.

1. Research Essay: A problem statement outlining the thesis topic, establishing a rationale with goals and objectives, and formulation of a critical position or philosophical view from which to view the thesis. The critical position informs research based on your personal beliefs, goals, and rationale. It may derive from knowledge and insight gained through individualized course work in your Area of Concentration here at NSAD.
   DUE: 1 Conceptual Model, 1 Drawing, and 1 Essay (3 PG Minimum, APA)

2. Case Studies: Identification, documentation, and analysis of comparative characteristics of selected building projects based on formal organizational patterns or “Ordering Systems” considered unique to the selected building type. Also required are analytical diagrams describing the eight ordering principles.
   DUE: 5 Unique Case Studies comprised of drawings, digital graphics, and text exploring project data, programmatic layout, economic and site factors which help to synthesize your research problem. Provide a conclusive written analysis as to how these cases may inform your project.

3. Architectural Program: Pre-design research establishing an “information gathering process,” setting requirements in a systematic and organized way allowing for a clear understanding of the nature of the problems associated with a particular typology. Programs identify functional, operational, and building performance characteristics along with spatial adjacency relationships and physical and cultural site factors. Also required are architectural embryos and 3D collages describing the programmatic factors.
   DUE: 1 Comprehensive architectural program, project details, list of spaces (served, servant, etc), and ordering determinants. To be derived from contrasting previous typological analysis with the above criteria, and working towards establishing useable / concrete building functions, sq footages, or other researched factors helping to define your speculative thesis project.

4. Contextual Analysis: Pre-design research that inventories, records, analyzes, and diagrams physical and cultural site factors inherent within a site and surrounding context to inform the design process via a comprehensive understanding of opportunities and constraints available to the designer. This understanding coupled with the environmental programming criteria establishes a basis for sustainable design. Also required are analytical and experiential 3D hybrid collages of the site conditions.
   DUE: The comprehensive contextual analysis of 2 unique sites of interest. To be selected based on your research essay’s problem occurring detectably within space, or obvious cultural and environmental factors stemming from your critical position. Graphically expressed via a combination of hand drawn and digital techniques; you must show your speculative building program layout comparatively across both sites.
   Provide a conclusive written analysis of pros vs. cons.

5. Conceptual Design Options: Three concept directions using meta-diagramming techniques to express and understand relationships between contextual and programmatic requirements in order to investigate potential formal solutions to the stated thesis problem.
   DUE: 3 conceptual design options (site plan, program layout, massing, and descriptive vignettes / physical models for each); representations must indicate scale, orientation, and material.
FORMAT:

The organization and physical format of the research document is open-ended, but must ultimately adhere to the given FRONT MATTER when AR501, 2, and 3 are compiled together. The document should be considered part of an overall graphic design effort and, as such, it should communicate exceptionally well; for example, excellent graphics with well-written, error free text is without question! The format and organization of this material must conform to the required format for publication at the end of the Spring Quarter.

Since the research document will contain both text and graphic material size the document accordingly but no larger than 11” X 17” spreads.

This final submittal has two parts

- Spiral bound with a clear plastic cover and heavy black vinyl back
- PDF file less than 10 megabytes containing your spreads via email

These are the only acceptable format for consideration! All others will be returned for re-submittal!

The completed Research Document replaces portfolio requirements for advancement to AR502 and must be submitted on time for final grade consideration. Incompletes are NOT given for the thesis sequence except in extreme situations requiring documentation and a formal request on the part of the student.