Department & Course Number  Architecture & Urban Design 98T
Course Title  The Drawing At Work: Theories of design and drawing

1. Check the recommended GE foundation area(s) and subgroup(s) for this course

   **Foundations of the Arts and Humanities**
   - Literary and Cultural Analysis
   - Philosophic and Linguistic Analysis
   - Visual and Performance Arts Analysis and Practice

   **Foundations of Society and Culture**
   - Historical Analysis
   - Social Analysis

   **Foundations of Scientific Inquiry**
   - Physical Science
     * With Laboratory or Demonstration Component must be 5 units (or more)
   - Life Science
     * With Laboratory or Demonstration Component must be 5 units (or more)

2. Briefly describe the rationale for assignment to foundation area(s) and subgroup(s) chosen.

   The class is situated under Foundations of Arts and Humanities, as it focuses on theories of the architectural drawing in art and architectural history.

3. List faculty member(s) who will serve as instructor (give academic rank):
   Professor Sylvia Lavin, faculty mentor; Sarah Hearne, teaching fellow

4. Indicate when you anticipate teaching this course:

<table>
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<tr>
<th>2013-2014</th>
<th>Winter</th>
<th>Spring</th>
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<tr>
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   GE Course Units  5
5. Please present concise arguments for the GE principles applicable to this course.

- **General Knowledge**: Spanning from the Renaissance until the contemporary moment this class will use drawing as a way to ‘read’ the history of architecture broadly.

- **Integrative Learning**: The class will involve presentations, discussions, formal analysis, and close reading in order to facilitate an integrated approach to the study of architectural history.

- **Ethical Implications**: This class will explore the wider implications of drawing types and their transmission to various audiences in order to understand the disciplinary aspects of architecture and art.

- **Cultural Diversity**: The class will cover material from a wide variety of geographical and cultural sources.

- **Critical Thinking**: By presenting the students with comparative texts and drawings that reflect on a single theme or historical moment the class will encourage critical evaluations and thinking from various perspectives.

- **Rhetorical Effectiveness**: There will be presentations of the final papers toward the end of the quarter. These will feature feedback that incorporates rhetorical effectiveness.

- **Problem-solving**: The in-class seminar discussions will walk the students through how to read both drawings and texts closely and what questions to ask of this information in order to engage specific disciplinary problems.

- **Library & Information Literacy**: The students will utilize the library resources in their final paper research. The class will guide them on how to read various notations, conventions and symbolic orders of the architectural drawing.

### (A) STUDENT CONTACT PER WEEK (if not applicable write N/A)

<table>
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<tr>
<th>Activity</th>
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<tr>
<td>1. Lecture</td>
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<td>2. Discussion Section</td>
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<td>3. Labs</td>
<td>NA</td>
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<tr>
<td>4. Experiential (service learning, internships, other)</td>
<td>NA</td>
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<tr>
<td>5. Field Trips</td>
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(A) **TOTAL Student Contact Per Week**: 3 (HOURS)

### (B) OUT-OF-CLASS HOURS PER WEEK (if not applicable write N/A)

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<th>Activity</th>
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<td>1. General Review &amp; Preparation</td>
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<tr>
<td>3. Group Projects</td>
<td>NA</td>
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<tr>
<td>4. Preparation for Quizzes &amp; Exams</td>
<td>NA</td>
</tr>
<tr>
<td>5. Information Literacy Exercises</td>
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<td>6. Written Assignments</td>
<td>2</td>
</tr>
<tr>
<td>7. Research Activity</td>
<td>2</td>
</tr>
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</table>

(B) **TOTAL Out-of-class time per week**: 12 (HOURS)

**GRAND TOTAL (A) + (B) must equal at least 15 hours/week**: 15 (HOURS)
The Drawing At Work: Theories of design and drawing in Architecture

Today in a world of architecture commonly described as late digital, the definition of what a drawing actually is has expanded to accommodate the disappearance of the physical page. From the virtual spaces of modelling software to the paperless studio, the operations of architecture are largely run according to the capabilities of computation. The term digital, the popular usage of which relates to the computer, exists in opposition to its paired term the analogue. And while both terms arise out of early computer terminology of the post war period, it is important to note that their quotidian usage is somewhat based on a misunderstanding. Because while the term analogue has come to stand in for things that are physically made, it still relates to that which is computed. Likewise we find in fact that the term digital has its roots in relation to the finger (digit), and further there are examples of architectural drawings that can be described as digital from as early as the Renaissance.¹

These problems are intrinsically linked to the history of the drawing as it shifted from the hand to the instrument and finally into the virtual. And yet histories of architecture commonly involve themselves in the development of movements and changing styles, rather than tracking the architect’s procedures and protocols of operation. This seminar is not about style, nor movements. This seminar will track an alternate and minor history of the media of architectural discipline. We will examine the role of the drawing in the construction of the idea of design itself since the renaissance. We will examine how drawings and other media shape our understanding of the history of architecture, and will also examine key drawing techniques that have shaped the practice of architecture and that are still taught in the design studio today.

Course Format:

SEMINAR STRUCTURE:
Each week the in-class discussion will focus around 2-3 specific case study drawings. These drawings will be described and analyzed in a workshop environment through the lens of the weekly set readings. The weekly reading sets are designed to feature at least one text that promotes a ‘close reading,’ allowing the opportunity to lead a reading oriented discussion. These in class close readings of the text, much like the analysis of the drawings, will equip the students with often overlooked skills in ways to approach and understand texts and drawings in their own future studies.

MATERIAL ORGANISATION:
The introductory session in week one will focuses on the problems of the contemporary and establishes the exploratory themes for the rest of the class. From that point on the classes will follow a chronological structure, beginning with the Renaissance. Each week has a thematically focus that keys students into the priorities of that historical moment, for example disegno and the idea of architecture during the Renaissance.

Course Requirements:
The course is structured around the production of a substantial piece of analytical writing, as a final essay paper. This essay form (10-15 pages) will demonstrate comprehension of the seminar topic and focus on a related topic of the students choosing. The essay must utilize the analytical techniques introduced in the class in order to elaborate on a particular drawing (or set of drawings) to form the main argument.

Assignments: Participation (discussion, questions, responses) 10%
Submission 1 (Wk 03): Paper Abstract and outline 10%
Midterm (Wk 05): Paper Draft 20%
Submission 2 (Wk 08): Presentation paper and feedback 40%
Final Paper (Wk 10) 20%

Week 01_ INTRODUCTION: CONTEMPORARY CONTEXT, FACING THE DIGITAL AND THE ANALOGUE
The introduction seminar will establish the contemporary status of architecture, as deeply embedded in digital and virtual practices, but despite this persistently engaged with myths of hand-made or analogue procedures. These myths in architecture are often disguised though discourse on the drawing. This seminar is designed to broadly establish the terms for the coming weeks and likewise, the seminar instructor will initiate the case-study analysis in order to model the various ways to formally read and understand the conventions of drawings.

Possible Discussion Questions:
1. Where do the terms digital and analogue come from, and how do they relate to contemporary practices of drawing and architecture?
2. What is the current status of the drawing?
3. Why do contemporary architects like Frank Gehry and Junya Ishigami use digital techniques of drawing in order to produce works that capture the expressivity of the ‘hand’?

Weekly Readings:


WEEK 02_ IDEAS
This week focuses on the Renaissance conception of Disengo, a term which translates into both drawing and design—this split in meaning foregrounds the fundamental relationship between ‘ideas’ and the act of drawing. The seminar will explore the relationship between concept and materialization, as formed in art history.

Discussion Topics:
1. What is disegno? How did it tie the arts together during the renaissance?
2. What are the contemporary implications for understanding the notion of the idea?
3. How do we understand the role of imitation in the history of architecture? And what role has drawing played in this story?

Weekly Readings:


WEEK 03_ PERSPECTIVE AND THE RENDER
This week will look at the invention of perspective, a method of representation that embeds a viewer into the
drawing. We will explore how attitudes toward the perspective and illustration have shifted and how this is seen through the construction of the drawing. This discussion will establish the current discourse around the rendering in the design studio and the field at large.

Discussion Topics:
1. What was the novelty of perspective (refer to Brunelleschi’s exercise)?
2. What were the anxieties surrounding the distortion and seduction of perspective renderings? Do these anxieties persist today?
3. What is the difference between the painterly technique and the line?

Drawing Case Studies:
Jean Courtan, Practical Perspective (Traite de la perspective pratique) 1725
Girard Desargues, One Example of the Universal Method (Example d'une des manieres universales) 1636
Andrea Pozzo, Perspectival, 1670

Weekly Readings:


WEEK 04_ ANTI PERSPECTIVE
This week looks at techniques of drawing that were held to a system of scale and measurability, from two dimensional (orthogonal) drawings most commonly used in describing building for construction purposes, to the more radical practices of axonometry. While the orthogonal and axonometric share a regard for measure, they in fact operate according to a different mode of reading. The orthogonal drawings exist in sets and therefore require a relative reading of layouts, and the axonometric displays ‘everything all at once’. This class will explore the ideological differences between these two forms of representation.

Discussion Topics:
1. What is the ideological difference between the universal and subjective viewpoint?
2. What does virtual mean? How does this relate to the earlier discussion of disegno?
3. Why do two types of drawings that prioritize the stability of true measurement produce different readings?

Weekly Readings:


WEEK 05_DISCIPLINED DRAWINGS
This week focuses on the disciplining of the drawing in the early French Academies during the enlightenment. The Beaux Arts and the Polytechnic systems educated architects and engineers according to a pedagogical model that is still influential today. A comparison of these institutions reveals divergent attitudes to the drawing—the former producing works of genius and talent, and the latter producing systematic strategies for efficient and economical design.
Discussion Topics:
1. What is the relationship between the institution and the notion of discipline?
2. What role did drawing play in the formation of architectural and engineering as disciplines?
3. What was the economic argument in this moment attached to the drawing?

Weekly Readings:


Week 7_ Mechanical Drawings and Mechanized Process
With the rise of industry and mechanization in the late 18th century, architectural production also began to increasingly rely on mechanized techniques. Mechanical drawing, the manual discipline of drawings produced by drafting instruments, standardized the language of the drawing and neutralized the expressive marks of the ‘hand’. These highly rationalized and seemingly objective drawings played an increasingly role in the production also of industrial and object design. And in full circle return, by the early 20th century Avant-garde artists, who are interested in the collapse of everyday life and art, began to explore the mechanical and patent drawing as methods to produce ‘constructive’ arts that challenged notions of artistic authorship. This week will explore the pressures of the first machine age on the architectural drawing and art practice.

Discussion Topics:
1. What is aura and how is it related to the hand?
2. How did the logic of rationality begin to reorganize architecture
3. How was this increasing turn toward the rational infiltrate techniques of drawing?

Weekly Readings:


WEEK 08_ DRAWING AS SPECIFIC MEDIUM?
By the mid 20th Century in the arts there was a concerted effort to distinguish the particularism or irreducibilities of various mediums of art. Architecture never comfortably participated in the discussions on medium specificity. However one key way that authors have discussed the medium of architecture, was to precisely reduce it to its relationship to the drawing. This week focuses on why the question of medium is such a challenge to architecture.

**Discussion Topics:**
1. Can drawing be considered a medium?
2. What did architectural drawings techniques offer to Avant-Garde artists in the post war period?

**Weekly Readings:**


**WEEK 09_ In class Presentations and Feedback**

**WEEK 10_ FROM VISIONARY TO CONCEPTUAL**
The 1970s saw a great flowering of architectural drawing and 'paper architecture.' While a minor history of architecture tells the story of visionary drawings that proposed utopian visions or incisive societal criticisms through the medium of image making, by the 1970s this practice reached fever pitch. With many architects seeking out the site of paper in order to experiment with drawing as a language in line with the semiotic influx into the discourse of architecture. It is important to note, that in this same moment, the drawing itself became increasingly popular topic of historical study, a study which was previously dominated by studies of buildings themselves.

**Discussion Topics:**
1. Why was making-process foregrounded in art and architectural projects in the post war period?
2. How does the conceptual movement in architecture relate to the historical problem of disegno?
3. How might one consider the changes in techniques of drawings from the visionary to the conceptual?

**Weekly Readings:**


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# New Course Proposal

## Architecture & Urban Design 98T  
**Between Disciplinary Lines**

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<td><strong>TIE Code</strong></td>
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<td><strong>Major or Minor Requirement</strong></td>
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<td><strong>Requisites</strong></td>
<td>Enforced: satisfaction of entry-level Writing requirement. Freshmen and sophomores preferred.</td>
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<td><strong>Course Description</strong></td>
<td>This seminar will explore the role of the drawing has played in constructing the &quot;idea&quot; of design itself from the renaissance to the contemporary moment. We will focus on how drawings and other media shape our understanding of the history of architecture and will also examine key drawing techniques that have shaped the practice of architecture and that are still taught in the design studio today.</td>
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<tr>
<td><strong>Justification</strong></td>
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<td><strong>Supplemental Information</strong></td>
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| **Grading Structure** | participation -10%  
  submission 1 of paper abstract and outline - 10%  
  midterm paper draft - 20%  
  submission 2: presentation paper and feedback - 40%  
  final paper - 20% |
| **Effective Date** | Spring 2014 |
| **Discontinue Date** | Summer 1 2014 |
| **Instructor**    | Name: Sarah A. Hearne  
  Title: Teaching Fellow |
| **Quarters Taught** | Fall, Winter, Spring |
| **Department**    | Architecture & Urban Design |
| **Contact**       | Name: CATHERINE GENTILE  
  E-mail: cgentile@oid.ucla.edu |
| **Routing Help**  | Role: Registrar's Publications Office  
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