PRODUCTIVE DISTORTIONS

Perception is a construct informed by social, cultural, political, and technological biases, among others. Inherent to perception is distortion of varying degrees, as how we perceive our environment is altered by our tools of measure and modes of representation. This course asks students to explore how social and cultural biases are embedded in technologies of measure and representation, and how these predilections influence architectural design decisions. The studio will look specifically at conventions of measure, geometry, optics, and perspective construction in relation to extreme conditions of perception, with particular interest in optical illusions and anamorphosis that privilege atypical or multiple points of view. The studio will be focused on the various perceptions of public space in New York City.

Architectural design is a process that is structured around the production of artifacts: drawings, models, diagrams, buildings, etc. Essential to this process is the feedback the architect gets when these artifacts pass from their virtual conception to the material world where they are subject to interpretation, criticism, and evaluation. Feedback forms the basis for the recursive process of design that resists absolute solutions in favor of an iterative process in which feedback from material, context, colleagues, clients, etc. can be looped back into the design. Students will be encouraged to consider feedback as a generative tool for design, with particular focus on the relationship between virtual and actual constructions, and their production via both manual and digital means.

The introduction of computer technologies into the process over the past thirty-five years has put into question what role manual drawing and modeling has in the design process, and how the dialogue between manually produced drawings/models and digitally generated design artifacts can be productive, in service not only of clear representation and communication, but most importantly as inspiration, and a catalyst for innovation in architectural design. We will explore the conventions of the representational language of architecture with particular attention to how analog and digital techniques affect the process of design. The course will focus largely on perceptual tools, namely techniques of measure, drawing and modeling as a way to ‘see’ the built environment, and the productive distortions embedded in these tools.
Architects work across a variety of mediums, sampling the best tool from a range of those available, rarely relying on one pen or one piece of software to do everything – instead, designers strategically select their tools as the biases of the tool invariably affect the process and outcome. This movement in the design process and feedback produce a series of ‘interferences’ in the process that provide opportunities for invention. Consider specifically the biases embedded in your selected design tools and use these to produce new architectural design opportunities.

**Project 001:**
*POINT OF VIEW - CONSTRUCTED – 2d Biased Tools of Measure - 4 weeks*
Students will be challenged to study the public spaces of Manhattan, and how these spaces are occupied by different user groups (i.e. corporate executives, tourists, students, dancers, skateboarders etc.). Students will begin with photography as a method of recording and manipulating our perception of public space. Informed by these observations, students will be challenged to construct a viewing/drawing device that produces a particular distortion based upon the observed biases within a chosen user group. Standards of perception, specifically units and tools of measure and representation will be put into question as culturally and socially biased devices. Students will then be asked to invent and construct a full-scale recording device and a set of instructions for its use in which these preferences are embedded. Students will measure the original view using now a series of “points of view” of two distinct user groups of their choosing. Two individually biased drawings will be created, and the space between these will be explored in a third composite drawing. *Due 1 October*

**Project 002:**
*EXTREME PERSPECTIVES – 3d Biased Tools of Representation - 4 weeks*
Students will begin with their 2d drawings from the first exercise to create a three-dimensional digital model of a new public space. Students will generate from this model two perspectival views of this model using extreme anamorphic projections onto selected geometric forms as a digital drawing technique, and as a way of exploring the spatial and perceptual consequences of varied points of view, literally and figuratively. *Due 29 October*

**Project 003:**
*PRODUCTIVE DISTORTION – Anamorphic Architecture - 6 weeks*
Students will study further the concept of anamorphosis as an extreme perspective, or point of view, and the possibility that multiple points of view might be embedded in any one image or object. Students will propose a piece of architecture that incorporates two distinct and extreme points of view that are responsive to local, national and global scales. Students will propose an information center to be located within the public space of their earlier studies that is designed to respond to the particular biases (i.e. different user groups, time of day, etc). Digital and analog techniques will be utilized to develop conceptual ideas into clear design proposals. *Due 10 December*
**Workshops**

Central to the investigations undertaken in this studio is the intensive use of drawing and modeling tools, both manual and digital. Students will be required to learn how to utilize these tools to create, develop, and share design intentions. There will be a series of intensive manual and digital workshops including manual drawing techniques, physical model-making techniques and the use of specific digital software packages which are available in the DAL including Adobe Suite (Photoshop and Illustrator) and Rhinoceros 5.0.

**Readings**

A series of readings, given in support of the manual and digital workshops, are suggested. Selected readings from this list will be specifically assigned and discussed in class.


Kittler, Friedrich: Optical Media. Polity, 2010


Tschumi, Bernard: “Operative Drawing”
<table>
<thead>
<tr>
<th>Week 1</th>
<th>Tuesday</th>
<th>September 8</th>
<th>Introduction – Project 001 assigned</th>
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<tr>
<td></td>
<td>Thursday</td>
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<td>Measure and Distortion</td>
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<td>Week 2</td>
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<td><strong>Pin-Up: Biased Recording Device</strong></td>
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<td>In-class Exercise and Digital Drafting Demonstration</td>
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<td>Week 4</td>
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<td>Thursday</td>
<td>October 1</td>
<td><strong>Review Project 001</strong></td>
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<td>Week 5</td>
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<td>October 6</td>
<td>Project 002 assigned; Modelling Demo: Rhinoceros 5.0</td>
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<td>Thursday</td>
<td>October 8</td>
<td>desk crits</td>
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<td>Week 6</td>
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<td>Thursday</td>
<td>October 15</td>
<td>Digital Drawing Demo: Perspective and Anamorphosis</td>
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<td>Week 7</td>
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<td>Week 8</td>
<td>Tuesday</td>
<td>October 27</td>
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<td><strong>Mid-Term Review: Project 002 – Digital Distortion</strong></td>
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<td>Tuesday</td>
<td>November 3</td>
<td>Election Day Holiday – no class</td>
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<td>Thursday</td>
<td>November 5</td>
<td>Project 003 assigned; In-Class Demo – Extraction from Rhino</td>
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<td>Tuesday</td>
<td>November 10</td>
<td>desk crits</td>
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<td>Pin-Up</td>
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<td>Thursday</td>
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<td>Thanksgiving Holiday – no class</td>
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<td>Week 13</td>
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<td>December 1</td>
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<td>Week 14</td>
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<td>Thursday</td>
<td>December 10</td>
<td><strong>Final Review: Project 003</strong></td>
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Format: The course is based on the studio method, in which students are expected to work independently to develop their thinking and making, under specific challenges, criticisms and provocations of a critic. The design process is iterative in nature, and risk-taking and experimentation are encouraged. There are no “correct” answers for many of the questions that arise during desk crits, rather suggestions for ways to approach and develop the project. We expect you to pursue your own point of view in response to the project and to develop a graphic argument to support it. Your design process - the development of your project, the rigor of your research, the clarity of your representation, the presentation of your design – plays a large role in the evaluation of your work, not just the final product. Class time will be divided into individual dialogues or critiques (desk crits) between student and critic, open discussions, student presentations, and/or informal lectures. Presentations of work will be public – either informal (pin-up) or formal (review with guest critics). In both, students are required to intelligently (visually and verbally) present their work in order to instigate a discussion about the ideas in their work.

Pre-Requisites: This is an introductory course for students interested in thinking about architecture and is required for those majoring in Architecture. There are no prerequisites, with the exception of a passion and a will to speculate. It is generally recommended for the sophomore year, and can be taken before or after Architectural Representation: Abstraction. Abstraction and Perception complement each other, with the former concentrating on conventions of architectural representation, and the latter on methods and techniques of spatial representation.

Requirements: Attendance is mandatory at all scheduled classes. Students are encouraged to work in studio, and to review one another’s work together. Studio is held Tuesday and Thursday beginning promptly at 1:10pm. Any student arriving after 1:20pm will be considered ‘late’. Arrivals after 2pm will be considered ‘absent from class’. All absences must be reported to your critic. The only excused absences are those for health or crisis. Unexcused absences will reduce your course grade, as will late arrivals or early departures from class. Three consecutive absences or four non-consecutive absences will mean that you have dropped the course, whether or not you have filed the appropriate ‘drop’ form. Three non-consecutive absences from class will result in a grade reduction by one-half (1/2) of one letter grade. You may not leave class early or after a desk crit unless you have received specific permission from your critic for the purpose of research or site visit or class related work. Please use the hours you spend in class productively; you are not simply waiting for you critic to see you.

Sketchbook/Journal/Notebook: Students must maintain a book within which to draw, sketch, scribble, take notes, fantasize, etc… This is a critical supplement to the studio process. Ideas concerning your studio assignments should be recorded here. It is also helpful to use as a record of issues discussed during desk crits. It is not a substitute for assigned work.
Grading: Each project will be graded with a letter grade and a verbal or written evaluation. Your work will be evaluated by the following criteria: (1) idea/concept; (2) conceptual development and design process; (3) final execution/presentation. Projects 001 and 002 will count for 30% of your final grade each. Project 003 will count for 40% of your final grade.

Room Rules and Security:
1. You must provide your own lock for the locker.
2. The studio should remain locked at all times. This is for you and your belongings’ safety (things have been stolen before). Security will let you in the room 24 hours a day as needed.
3. No spray paint or fixative is permitted in the building. It is extremely toxic.
4. No chairs should leave the room.
5. Students with disabilities and who may need disability-related classroom accommodations are encouraged to make an appointment to see their critic as soon as possible.
6. Headphones must be used when listening to music.
7. No eating in the studio during class. In general, I discourage storing or eating food in the studio at any time due to the possibility of accidental spills on your (or your neighbor’s) work. Beverages are allowed in the studio during (and after) class time, but please be careful.
8. You are responsible for keeping your desk and your storage area clean and organized. If you are using an empty desk adjacent to your assigned seat, it is also your responsibility to keep this area free of debris.

Supplies: Each student will have a desk in the 4th floor studio in the Diana Center. You must work in the studio after hours, employing your peers as critics. You will be expected to equip your desk with the necessary tools and materials for your projects. No excuses for incomplete work should be made for lack of equipment. Each project will use different equipment – specific purchases in addition to those listed below should be made as required.

Required Basic Tools and Materials:
Xacto knife or other cutting knife such as Olfa
Desk lamp
Vyco board cover for drawing surface
Scissors
Architectural scale
Stainless steel straight edge ruler with cork bottom for cutting
Cutting mat
Any camera
White glue (Sobo)
Drafting tape
Scotch tape
12” roll of tracing paper
Sketchbook
Other materials may be added to this list per project.

Manual Drafting Tools (Optional)
Parallel rule (36” – 42” armor edge recommended)
8” or 10” adjustable triangle and a 30/60 inking edge triangle larger than 10”
Lead pointer
Lead holder
Rotring or Koh-I-Nor technical drafting pens
White and yellow eraser
Erasinig Shield
French curves
Desk brush
Leads (HB, H, 2H, 4H)
Rapid dry ink for pens