ARCH 195 ARCHITECTURE STUDIO I

FALL 2024
Studio M: 1:00pm-5:20pm / Th: 1:00pm-5:20pm
Workshops-Lectures-Tutorials

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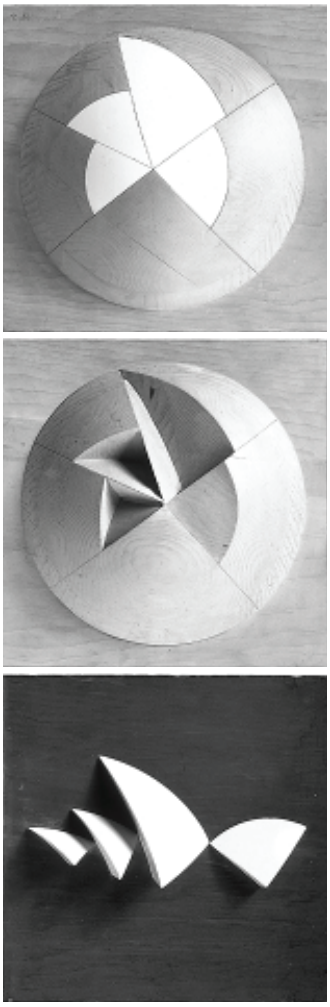


Bjorn Utzon
studies for the Sydney Opera House

OVERVIEW

Successful learning requires curiosity, discipline, and precision. This course is designed to teach the fundamentals of architecture, through the iterative process of making & thinking. The studio is conceived as a series of interrelated exercises that will introduce you to a range of architectural issues, tools and techniques, in order to increase your ability to visualize, communicate and execute your work.

Each project will provide you with an opportunity to synthesize the material, the technical and the conceptual aspects of architecture within cultural practice. In this course we will situate technology at the core of our design process. For technology to become a powerful conceptual design tool, you will learn to de-familiarize the conventional, move past symbolism, and leap beyond the accepted limits of digital tools. Then the simplest and most basic of technologies can become sites of wonder and opportunity.

We will focus on using analogue and digital tools precisely, while exploring ways of putting them to new uses. To facilitate this the studio consists of weekly exercises that gradually become more complex. By the end of the first semester, you should have a clear understanding of your own process of design, sense of architectural composition, grasp of communication and craft. Moreover, you should also be developing the awareness for the issues that are central to both the profession and our discipline.

CONTENT

On architecture:

"[d]esigning from the outside in, as well as the inside out, creates necessary tensions, which help make architecture. Since the inside is different from the outside, the wall – the point of change – becomes an architectural event. Architecture occurs at the meeting of interior and exterior forces of use and space".

- Robert Venturi, Complexity and Contradiction

On orders of magnitude:

When I say "Alice becomes larger," I mean that she becomes larger than she was. By the same token, however, she becomes smaller than she is now. Certainly, she is not bigger and smaller at the same time. She is larger now; she was smaller before. But it is at the same moment that one becomes larger than one was and smaller than one becomes. (. . .) Good sense affirms that in all things there is a determinable sense or direction; but paradox is the affirmation of both senses or directions at the same time.

- Gilles Deleuze, The Logic of Sense

The semester consists of four exercises which are conceived as a series of stepping stones. Subsequent projects provide a departure point for the next set of questions while allowing for a fresh start. Each exercise addresses a specific disciplinary problem related to architectural design. The scale of investigation involves the wall, the aperture, exterior surface, interior surface, the space in-between, the relationship between the volume and ground, light and gravity, and the development of structure and surface.

The design of architectural form is historically linked to the linear progression of adding detail by increasing scale. Digital design is different. In the digital realm everything is 1:1, a non-linear tooling which means our thinking and our processes need to be coordinated. An essential aspect of learning to work digitally is to understand the distinction between scale, the size of things in the world, the units, and the detail that is required to represent and/or fabricate them. Also important is the understanding of how digital work, and how they differ from analogue, and where their limits are. This semester will focus on how digital and analogue tools intersect with our discipline of inputting, transforming and outputting architecture. This semester is designed to teach the significance of working at 1:1 in conjunction with a digital model. These tools will be used to promote a culture of crafting precise models and drawings throughout the design process.

MEDIA

The exercises are structured to help students understand architectural abstraction through orders of magnitude. As the projects become larger, they will inherently require more parts. This is implicitly part of working with the paper cutter which is designed to accommodate standard paper sizes. Small models may find an economy in one sheet of paper while the larger models will require stiffening and the coordination of multiple sheets. These constraints provide the basis for a micro economy where cutting time, the conservation of material and limiting the number of parts, become an integral part of learning how to make things in the world and is a coordinated "act of design".

Cri-cut machine

The teaching/learning of media will be incorporated into the design process. The semester has been structured to cultivate a culture of making paper models as a shared medium to explore the surface and volume. The type and color of the paper is specified. Each studio will have access to a Cri-cut digital paper cutter to be shared amongst two studio sections. Studio sections and their faculty are responsible for the maintenance and safety of the Cri-cut from vandalism and/or theft.

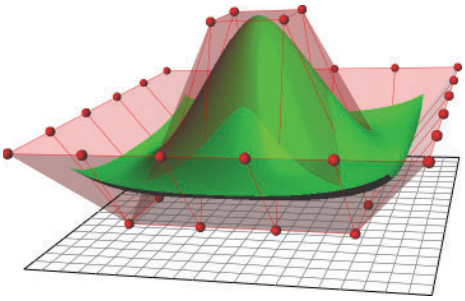
To expedite the transformation and unfolding of 3d objects we will use Pepakura (*https://tamasoft.co.jp/pepakura-en/*). Each student is required to install their own version. Rhinoscerous 3D (Rhino) will be available on the network for students who have purchased the school computer. Students who use their own computer can download a 90 days free trial for Rhino (*https://www.rhino3d.com/*) for the assignments. Students are encouraged to purchase their own educational copy of Rhino and the Adobe Suite: Photoshop, Illustrator, and In-Design.

APPROACH & OBJECTIVES

Precision:
As Frank Lloyd Wright stated, "consistency from first to last, will give you the result you seek and consistency alone." Everything you make, whether it's the first paper model or the last it should be approached with the same level of care and precision. The same ethic will apply to development of concepts, tools and measurement. Learning to articulate an idea clearly requires concise communication skills. Central to this is the effective use of drawing (analogue and digital) to convey ideas. The studio will focus on the representation of ideas and concepts that can be drawn and modeled, in favor of those that are spoken. A sketch is worth a thousand words. This will require you to develop and understanding of the ways architects communicate intent through drawings and the 1:1 relationship that is shared between form and its representation.

Process-based tools:
Design processes can be nuanced and often difficult to communicate or repeat. One of the keys to controlling the design process is being able to maintain consistency. Procedural form making refers to the use of a set of instructions that can be followed to achieve consistent results. Drawings and 3D models are one way that architects structure the use of their tools to maintain their architectural intent. Tools and methods such as orthographic projection, file conversion formats, scale and resolution are tools that insure fidelity. The studio will focus on developing a tool pipeline for the effective transfer and sharing of information with collaborators and machines alike.

Design: Making and Re-Making:
Architectural innovation does not descend upon us from heavens. It can only develop through multiple iterations. Improvement and wisdom comes through reconsideration, revision and remaking, over and over. By its nature model making is a process of action. It is essential that you make things multiple times in order to improve them by incorporating revisions. Maintaining up to date paper templates will expedite the process. Engaging in a process of revision is often confused with the idea of starting over. Revision is a means to improving an idea rather than finding a new one. To this end it is important to anticipate how to make things in parts so that they can be modified without starting over. This is an essential part of craft – learning to anticipate and manage change.



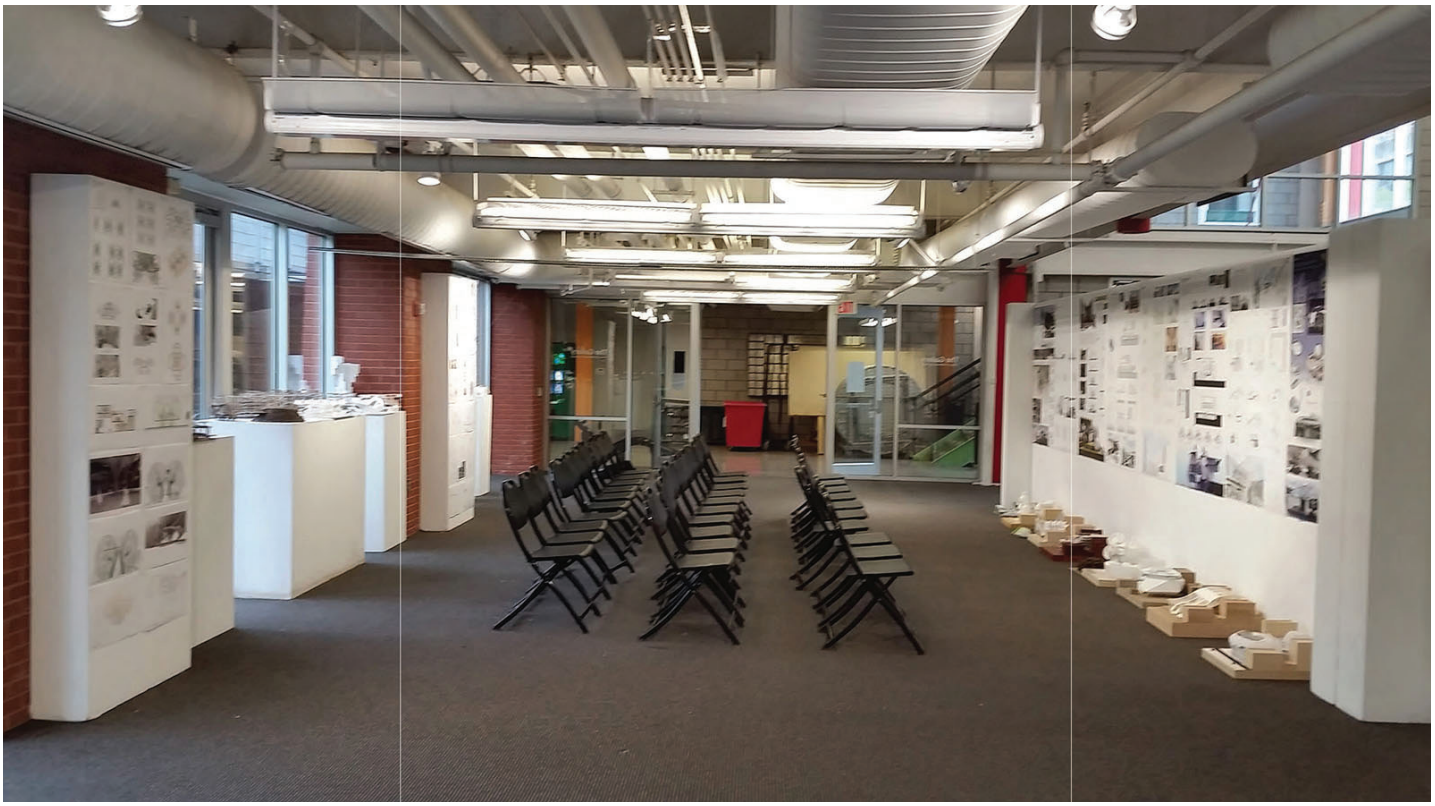
1-st and 2-nd degree curves forming 1-st and 2-nd degree surfaces

Techniques + Technology:
We will learn the underlaying principles of vector-based (specifically NURBs - Non-Uniform Rational B-Splines, mathematical representations of 3D geometry that can accurately describe any shape from a simple 2D line, circle, arc, or curve to the most complex 3D organic free-form surface or solid) software using 1-st and higher degree curves that define 1-st and higher degree surfaces. We will work exclusively with thin sheets of paper. Your projects will be developed using software that have been specifically developed to manage three dimensional surfaces that are more similar to paper, such as Pepakura for unfolding, Rhino for 3d surfacing and meshing.

Conventions:
The precise use of visual language is a necessary part of being able to share ideas. Architecture has adopted its own set of formal conventions, such as plans and sections, to deal with the design of buildings. Since the aim of these conventions is to represent things it can also lead to generalizations that cause us to resort preconceived notions - i.e. a house has a sloped roof and chimney. This can significantly impair our imagination. Learning how to design requires techniques to speculate on how to make things without reverting to preconceived ideals and types. While it might seem strange at first to insist on not calling a window a “window” but instead an “aperture” or “opening,”. The hope is that doing so will increase opportunities for you to conceive of things differently.

Constraints:
Design ingenuity is a product of responding creatively to constraints. The built environment is situated within a variety of political, material and economic constraints, yet none are robust enough alone to constitute architecture. Each exercise will pose a set of constraints, or relations that must be met. Their purpose is to guide your decision making process rather than dictate a solution. Successful designs will require you to develop an architectural idea or intention that is conceptually independent yet related to the constraints of each project.

Communication of intent / Drawing as a language:
Learning to develop a design requires a rationale for making decisions and a means for explaining your intentions. This allows for the understanding and development of ideas that extend your work beyond questions of taste and subjectivity. It also provides a framework for conversation and feedback. Each project will require you to be able to explain the objectives in the work you have made, and how you went about making decisions. Drawing is an integral part of establishing this dialogue to assess whether the design intentions are being met and how they might be improved. Good communication is an essential part preserving your ideas and being able to argue for their significance.



SUPER JURY EXHIBIT SPRING 2019

SCHEDULE (*subject to change*)

SEPTEMBER

Week 1	
Th 9/5	Introduction to 1st Year + EX1: Gallery | (Coord. mtg. 1) Review Syllabus, Miro Board, EX1 with studio critic | Model Exploration Workshop
Week 2	
M 9/9	Studio | Pin-Up Initial Design Explorations | Review Assigned Readings
Th 9/12	Studio | Drawing Workshop | Peer Mentor "Meet and Greet" | (Coord. mtg. 2)
Week 3	
M 9/16	Studio | EX1 Due
Th 9/19	Studio | Introduction EX2: Gallery | *Print Room Introduction* | RhinoTutorials 1-4 Peer Mentor Tutorial: Creating Drawings in Rhino
Week 4	
M 9/23	Studio | PIN UP: EX2 | Rhino / Pepakura Tutorials 5-7
Th 9/26	Studio | PIN UP: EX2 | (Coord. mtg.3) Peer Mentor Tutorial: Rhino Presentation Techniques

OCTOBER

Week 5	
M 9/30	Studio | EX2 Due
Th 10/3	Studio | Introduction EX3: Gallery
Week 6	
M 10/7	Studio | Pin-Up EX3 (Coord. mtg.4)
Th 10/10	Studio | Pin-Up EX3
Week 7	
M 10/14	Studio | Pin-Up EX3
Th 10/17	Studio (Coord. mtg. 5)
Week 8	
M 10/21	Studio | EX3 Due | Introduction EX4: Gallery at 4:00pm
Th 10/24	Studio | *Site Visit* | Workshop Site Conditions (Solar Orientation + Aperture)
Week 9	
M 10/28	Studio
Th 10/31	Studio | EX4 Part 1 Due Peer Mentor Tutorial: Photoshop

NOVEMBER

Week 10	
M 11/4	Studio | Pin-Up Schematic Design (Solar Orientation + Aperture + Entry)
Th 11/7	Studio | (Coord. mtg. 6)
Week 11	
M 11/11	Studio | Pin-Up Design Development
	Last Day to Withdraw from Class
Th 11/14	Studio | Peer Mentor Presentation Tutorial: InDesign
Week 12	
M 11/18	Studio
Th 11/21	Studio | EX4 Pre-Final Pin-Up
Week 13	
M 11/25	Studio
T 11/26	Studio (Thursday Class Meets)
Th 11/28	THANKSGIVING HOLIDAY

DECEMBER

Week 14	
M 12/2	Studio
T 12/3	PENCILS DOWN PRESENTATION BOARDS AT 6PM
W 12/4	PHYSICAL MODELS DUE AT 6PM
Th 12/5	Studio | FINAL REVIEW ARCH195
Week 15	
M 12/9	Studio Exit Interviews
	Canvas posting due
W 12/11	Last Day of Classes
Week 16	
S 12/15	FINAL EXAMS BEGIN
M 12/23	GRADES ARE DUE

TYPICAL WEEKLY STRUCTURE
This schedule is a generalization and subject to change, week to week.

COMPUTER:
Access to a computer with high speed Internet connection, Webcam, microphone and audio, and Windows/Apple operating system is required. (Webcam and Windows/Apple operating system is required). Access to a printer is necessary to facilitate model making.

Monday
1:00pm-5:20pm: Pinups, small group discussions, peer reviews, sketch assignments, joint studio reviews of completed assignments.

Thursday
1:00pm-5:20pm: Studio-wide meetings to review assignments, lectures, tutorials, related concepts, vocabulary, suggestions for beginning an assignment, previous examples, and general questions. In studio meetings for individual discussions, group discussions, pinups of exercises in progress, tutorials, etc. Use studio time to work on your project and make sure that you know what to do over the weekend. Use the weekend to work in studio or at home in order to complete the exercise. Most assignments are due each week at the beginning of studio on Monday.

NOTE: Students are required to check in with the Peer Mentors weekly. The Peer Mentors will provide students with a variety of means to accomplish this task.

WORK HABITS
One part of a designer's skill set includes the cultivation of habits of mind around production, work, and one's work environment. To that end, it is important, as much as possible, to see your work as something separate from yourself. This is not always easy, as we are all personally invested in our projects. However, in order to get the most out of the studio, try to remember that the discussions and feedback are directed toward your work, not toward you as a person. During discussions in the studio, as well as studio-wide presentations, we encourage you to become a more active listener. You should always have a pencil and your sketchbook with you. Use it to record the important ideas, feedback, and thoughts you have about the conversation, or about your own project. Use the process of taking notes as a way to practice drawing and to "think" graphically. For example, during the lecture, try to draw each image that you see and annotate it with notes about its important properties. We also encourage you to actively engage in the culture of architecture more generally via the library, websites, site visits, museums, lectures, events, visits to New York City, and so on. Your sketchbook is a fantastic way to collect and process this material. Perhaps this seems obvious, but it bears repeating that the sketchbook can become one of the designer's most powerful tools.

STUDIO SPACE
Working together in the studio is a special part of the experience of a design education. Please take responsibility for the studio environment and the people working in it. Be respectful and courteous of your colleagues and please be aware that everyone might have different ideas of what a productive workspace might be. We are entrusting you as the stewards of the studio spaces for the coming year and ask that you inhabit the space with respect, courtesy, and common sense. Practically, this means taking care of the facilities and taking responsibility for the quality and safety of the space. For example, please maintain the cleanliness of your studio, clean up after yourself when using common areas, **do not prop doors open,** etc.

If someone or something is making you uncomfortable in the studio, please let your instructor know, your advisor, a peer mentor, or another member of the NJIT community. Below are a few helpful resources:

NJIT Center for First Year Students: http://www.njit.edu/orientation/
NJIT Center for Counseling and Psychological Services (C-CAPS): http://www.njit.edu/counseling/

LEARNING AND TEACHING CULTURE POLICY
In addition to the overarching values and ethics of the university, the New Jersey School of Architecture is dedicated to optimism, diversity and solidarity, professional conduct, constructive evaluation and instruction, collaborative community, health and wellbeing, time management and school-life-work balance, respectful stewardship and space management, and well-rounded enrichment. The pedagogy of architecture and design is as complex as it is rewarding, and as dynamically evolving as the people who learn and teach it. This understanding resides at the core of the NJIT Learning and Teaching Culture Policy: https://design.njit.edu/learning-and-teaching-culture-policy

COURSE POLICY
According to NJIT's Attendance Policy for Undergraduate Students, you are expected to attend all regularly scheduled classes. Three or more unexcused absences will require a meeting with the instructor, coordinator, and advisor. Each additional unexcused absence could result in a grade reduction in class participation and workshops resulting in sub-par performance on assignments.

ATTENDANCE AND TARDINESS POLICY
1) Excused Absences:
Students requesting an excused absence for religious, athletic or other acceptable scheduled reasons MUST notify their studio instructor via email no later than ONE WEEK before the absence will occur. An absence due to illness can be excused if the student has filed official documentation (licensed medical practitioner) with the Office of the Dean of Students. The Office of the Dean of Students will, in turn, notify the instructor(s) that appropriate documentation has been received and confirmed, and detail what accommodation is warranted (i.e. extra time to complete assignments). Visit the Dean of Students website for more information. DOS FAQs https://www.njit.edu/dos/faq.php
DOS Request for Absence Verification https://www.njit.edu/dos/student-absence-verification
Absences for student-athletes see Missed Class Policy at:
http://www.njithighlanders.com/documents/2014/8/7/2014_Book_08_7_14.pdf?tab=2014-15sahandboo

2) Unexcused Absences:
Unexcused absences can result in the lowering of assignment grades or failure due to missed class workshops and instruction. The instructor is under no obligation to repeat any missed information or provide access to lecture notes or presentation materials to students who arrive late. It remains the responsibility of the student to learn the material presented.

ARCHIVING WORK ON CANVAS + KEPLER
All students are required to post each assignment to CANVAS and Kepler, on a regular basis. NJSOA students are required to upload all graded work to CANVAS and Kepler in order for students to receive a passing grade. Detailed information about this process will be provided on Canvas. Kepler will be accessed through CANVAS in the course modules.

ACADEMIC INTEGRITY
Academic integrity and honesty are of paramount importance. Cheating and plagiarism will not be tolerated. The NJIT Honor Code will be upheld, and any violations will be brought to the immediate attention of the Dean of Students. All students are responsible for upholding the integrity of NJIT by reporting any violation of academic integrity to the Office of the Dean of Students. The identity of the student filing the report will remain anonymous. All students are expected to adhere to the University Code on Academic Integrity and to the Code of Student Conduct.
Dean of Students: www.njit.edu/doss
Code of Academic Integrity: https://www.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf
Code of Student Conduct: https://www.njit.edu/doss/policies/conductcode/index.php

PLAGIARISM
It is extremely important that students and faculty familiarize themselves with a proper way to cite visual and intellectual sources. Plagiarism weather deliberate or inadvertent simply cannot be tolerated. Simply put, plagiarism is the use of visual or intellectual material created by others without proper attribution. Even the use of ones own material for more than one assignment can also be considered plagiarism. Students should not do so without the expressed consent of all instructors involved.

Our librarian Maya Gervits has assembled excellent resources on copyright, plagiarism citing, and avoiding plagiarism: http://researchguides.njit.edu/c.php?g=671665&p=4727920

STUDENTS WITH DISABILITIES
It is the school's moral, ethical, and legal obligation to provide appropriate accommodations for all students with physical and/or learning disabilities. If students need an accommodation related to disabilities, all official documentation must be filed with the Dean of Students and the Disability Support Service Office. It is the responsibility of the student to notify the instructor at the beginning of the semester if accommodations are warranted.

Dean of Students: https://www.njit.edu/doss/
Office of Accessibility Resources and Services: https://www.njit.edu/accessibility/

EVALUATION + GRADING CRITERIA (subject to change during semester)
NJIT Undergraduate grading scale:

A	4.0	90-100	Superior
B+	3.5	86-89	Excellent
B	3.0	80-85	Very Good
C+	2.5	76-79	Good
C	2.0	70-75	Acceptable
D	1.0	60-69	Minimum
F	0.0	0-59	Inadequate

Evaluation is based on a number of factors including overall work quality, improvement, effort, ambition, initiative, and enthusiasm. Within the goals of the first year course, the exercises in studio are designed to allow you to demonstrate your understanding and your ability related to the objectives described in each exercise sheet. In almost every case, dramatic improvement of both understanding and ability through hard work, commitment, and initiative with be positively supported in terms of assessment. In other words, there are multiple routes to success.

In an effort to further clarify the grading policy, below are brief summaries of the kind of work appropriate to each grade, based on the NJIT undergraduate grading scale:

A (Superior)
Work demonstrates advanced understanding of learning objectives and a high level of execution in terms of production abilities. Work is reflective of an intensive process of development that goes above and beyond expectations. Work is connected to larger architectural discussions and pursuant of specific architectural aims. Deliverables demonstrate a high level of sophistication, craft, attention to detail, and willingness to explore a wide range of production techniques. Work is further supported by advanced levels of independent initiative and library research. It is very hard to get an A but does not require previous experience or skills.

B+ (Excellent) / B (Very Good)
Work demonstrates good understanding of learning objectives and a good level of production abilities. Work is reflective of a process of development that generates multiple alternatives, assesses, selects, refines, and so on. Deliverables demonstrate a high level of sophistication, craft, attention to detail, and willingness to explore a wide range of production techniques. Work is further supported by independent initiative and investigation as well as active participation in the studio and consistent engagement of course material (i.e. readings, lectures, site visits, etc.). It is hard to get a B but does not require previous experience or skills.

C+ (Good) / C (Acceptable)
Work fulfills the requirements of each exercise in terms of conceptual understanding and technical ability. Work takes few risks and has some engagement with an iterative design process. Deliverables demonstrate a good level of craft and are carefully made (i.e. drawings are legible and correct, models are carefully cut and cleanly assembled). Work demonstrates basic level of independent initiative. Work improves over the course of the semester and reflects a genuine effort to improve in ability and understanding.

D (Minimum)
Work barely fulfills the requirements of each exercise in terms of conceptual understanding and technical ability. Work process is not evident. Deliverables demonstrate poor development of craft and / or do not demonstrate improvement over the course of the semester. Work demonstrates no additional initiative or engagement.

F (Failing)
Work is incomplete and does not demonstrate an understanding of the course content or abilities related to required skills.

Incompletes are only granted in the event of a documented medical or family emergency, and must be approved by the instructor, coordinator, and advisor. NJIT issues mid-term warnings for students who are not performing at a satisfactory level. Any student issued a warning will be required to have a conference with the instructor to evaluate satisfactory completion of the work for the semester. At any point during the semester students can arrange to meet with the instructor to inquire how their performance is progressing and how they may improve. Final grades will be discussed in person at the end of the semester. All students are expected to adhere to the University Code on Academic Integrity and to the Code of Student Conduct. Please take the time to read and understand both of these documents (see links are provided above). Any violations will be brought to the attention of the Dean of Students.

INDIVIDUAL ASSIGNMENT GRADING
EX1:10% EX2: 15% EX3: 20% EX4: 45% (Part 1: 10% , Part 2: 35%)

Class participation Grade: 10% The class participation grade consists of three components;
1) supplemental workshops-sketch assignments and/or reading assignments, 2) Project Archiving and
3) Weekly Peer Mentor check in and tutorials

***** evaluation for supplemental workshop-sketch assignments, and/or reading assignments will be provided by your studio critic.

NOTE: Each student is required to archive-upload completed work. If work is not uploaded to individual file folders students **WILL NOT** receive a grade at the end of the semester.

COURSE REFERENCE READINGS AND MATERIALS
A series of readings from the Texts listed below can be found online at the HCAD Littman Library

Simitch, Andrea and Val Warke.	*The Language of Architecture: 26 Principles Every Architect Should Know* Rockport, 2014 [available online]
Rendow Yee	*Architectural Drawing: A Visual Compendium of Types & Methods 4th Edition* John Wiley & Sons, 2013 [available online]

Albert Dorman Honors College
In order to satisfy enhancement requirements, Honors students are to delve deeper into the assignment learning objectives and encouraged to participate in the creation of TRANSECT, a publication featuring exemplary work across first year. A description of student responsibilities will be distributed separately from this syllabus.

NAAB GUIDELINES

Each assignment will require students to demonstrate ability and understanding in specific areas of architectural design. The National Architectural Accrediting Board (NAAB) has developed Conditions for Accreditation to maintain educational consistency in student learning objectives and outcomes. A program must demonstrate how it addresses the following criteria through program curricula and other experiences, with an emphasis on the articulation of learning objectives and assessment.

The course is designed to introduce students to the fundamentals of architecture, through the process of making. The studio is conceived as a series of interrelated exercises that introduce students to a range of architectural issues, new tools, and techniques of communication. Each project provides an opportunity to synthesize the material and the technical. There is an emphasis on a shared work ethic that situates technology at the core of our design thinking and the use of representation as an act of discovery. In order for technology to work it often makes familiar things strange, even the most common aspects of our digital tools like the paper cutter files can become sites of wonder and opportunity. There is a focus on using these tools precisely while exploring new ways of putting them to use and developing clear modes of representation to describe them.

Course Learning Outcomes

This course will guide students to achieve the following competencies:

- Explore and demonstrate understanding and ability of basic skills of representation and communication in the form of 2D and 3D media and the written word.
- Demonstrate critical thinking skills and methods of research, observation, analysis, and evaluation.
- Development of architectural design skills demonstrating basic organizational and environmental principles to determine form
- Demonstrate understanding and abiity to use ordering systems and precedents to examine and apply in service of the development of design projects.
- Demonstrate the ability to work collaboratively with others understanding diverse points of views and social contexts in the design of the built environment
- Demonstrate an awareness of the relationship between the natural and built environment and the responsibility architecture as a discipline has to address issues around climate change.

The National Architectural Accrediting Board accredits NJIT's architecture program. The NAAB has Program and Student Criteria that must be covered by any architectural curriculum to attain their approval. This course satisfies the following criteria:

PC.2 Design - How the program instills in students the role of the design process in shaping the built environment and conveys the methods by which design processes integrate multiple factors in different settings and scales of development, from buildings to cities.

PC.6 Leadership and Collaboration - How the program ensures that students understand approaches to leadership in multidisciplinary teams, diverse stakeholder constituents, and dynamic physical and social contexts, and learn how to apply effective collaboration skills to solve complex problems.

PC.7 Learning and Teaching Culture - How the program fosters and ensures a positive and respectful environment that encourages optimism, respect, sharing, engagement, and innovation among its faculty, students, administration, and staff.

PC.8 Social Equity and Inclusion - How the program furthers and deepens students' understanding of diverse cultural and social contexts and helps them translate that understanding into built environments that equitably support and include people of different backgrounds, resources, and abilities.

SC.1 Health, Safety, and Welfare in the Built Environment - How the program ensures that students understand the impact of the built environment on human health, safety and welfare at multiple scales, from buildings to cities.

NAAB GUIDELINES

The National Architectural Accrediting Board accredits NJIT's architecture program. The NAAB has Shared Values of the Discipline and the Profession that must be covered by any architectural curriculum to attain their approval. This course satisfies the following shared values:

1. Design: Architects design better, safer, more equitable, resilient, and sustainable built environments. Design thinking and integrated design solutions are hallmarks of architecture education, the discipline, and the profession.
2. Environmental Stewardship and Professional Responsibility: Architects are responsible for the impact of their work on the natural world and on public health, safety, and welfare. As professionals and designers of the built environment, we embrace these responsibilities and act ethically to accomplish them.
3. Equity, Diversity, and Inclusion: Architects commit to equity and inclusion in the environments we design, the policies we adopt, the words we speak, the actions we take, and the respectful learning, teaching, and working environments we create. Architects seek fairness, diversity, and social justice in the profession and in society and support a range of pathways for students seeking access to an architecture education.
4. Knowledge and Innovation: Architects create and disseminate knowledge focused on design and the built environment in response to ever-changing conditions. New knowledge advances architecture as a cultural force, drives innovation, and prompts the continuous improvement of the discipline.
5. Leadership, Collaboration, and Community Engagement: Architects practice design as a collaborative, inclusive, creative, and empathetic enterprise with other disciplines, the communities we serve, and the clients for whom we work.

In addition the First Year Architecture Design Studio I students will be required to demonstrate understanding and ability at an introductory level in the following subject areas;

I. Site Conditions: Access, Topography, Scale, Materiality, Historical and Cultural Context.
- To what degree does the design respond to environmental conditions of the site including: solar orientation, seasonal variation, variations in weather, sunlight, wind, precipitation, etc.?

II. Measurable Environmental Impact: Water Conservation, Renewable Energy Sources.
- Does the design have an overall positive effect on the natural and built environment?

III. User Requirements: Program Development, Circulation, Functional Relationships.
- Is the circulation system logical, functional and clearly understood?
- Are the rooms and spaces appropriately sized and proportioned?
- Do the various rooms and spaces designed accomplish the functional needs for their specific user?

IV. Regulatory Requirements: IBC 2021: Natural Light, Ventilation and Stair Design
- Does each room or space have natural light and appropriate to its function?
- Does each room or space have natural ventilation or fresh air and appropriate to its function?
- Does the vertical circulation meet code standards for stairs?

V. Accessible Design: Americans with Disability Act Code: Ramp Slopes and Wheel Chair Access
- Does the circulation system within the building meet general ADA requirements including ramps.

VI. Life Safety Systems: Minimum Egress Paths
- Does the circulation system within the building ensure safe egress?

VII. Structural Systems: Foundations, Load Bearing Elements, and Building Lateral Stability
- Is the structural system, all elements working together, proven to be stable?

VIII. Environmental Control Systems: N/A

IX. Building Envelope Systems and Assemblies: Enclosure Systems
- Does the building envelope function properly and visually enhance the design intent?
- Is the building envelope appropriate to its seasonal variation, and solar access shading, etc.?

X. Measurable Building Performance: Daylighting, Building Orientation, and Solar Access
- Does the design provide accurate design of solar orientations and design for day lighting?

MATERIALS & SUPPLIES

The following supplies should be purchased prior to the start of classes. All the items on the list below will be used during the fall term. The items in **bold** will be used in the first assignment and it is imperative for students to have these items prior to the first day of studio.

A majority of the materials listed here can be purchased at Jerry's Artist Outlet in West Orange, ordered on-line, or at your own local art supply store.

- **9" x 6" sketchbook (Moleskine or similar)**
- **18" trace paper roll yellow**
- **Staedtler Mars Graphic Artist Pencil Pack (2B-8B,B, HB, F, H, 2H pencils) with Mars Eraser**
- **Pencil Sharpener**
- **Pigma Micron Pens black - 3 pack (01, 03, 05 thickness)**
- Black and Red Sharpies, both thick and thin weight
- **12" architectural scale**
- **18" metal straight edge (please ensure this is cork-backed)**
- **8" adjustable triangle (with inking edge)**
- **Steel Framing Square 16"x24" (Irwin or equal)**
- Heavy Duty Snap Cutter (Similar to Olfa cutter) + extra blades
- **No. 11 X-acto knife + 100 extra blades**
- **Scotch Blue Painter's Tape, 2 rolls, 3/4" (18 mm)**
- **24" x 36" cutting mat**
- **Lineco Neutral PH Adhesive 8 Fl/oz (or equal)**
- 18" x 24" GRAYSCALE PADS 15 SHEETS (or equal, sheets can be purchased individually)
- **AC Card Stock or equal, 8 1 /2" x 11", White, 60-80 lb. smooth-50 sheets**
- 1/16" single-ply 32"x 40" (or similar) Chipboard 10 sheets

OPTIONAL ITEMS
- 16' or 25' tape measure
- Artbin 3 tray box
- Black and white china markers
- A few sticks of charcoal