

2020 Conditions and Procedures
Plan to Correct
for Continuing Accreditation

University of Colorado Denver
Department of Architecture

Master of Architecture

Date: June 30, 2024

NAAB

National
Architectural
Accrediting
Board, Inc.



Plan to Correct
(2020 Procedures)

Institution	<u>University of Colorado Denver</u>
Name of Academic Unit	Department of Architecture
Degree(s) (check all that apply) Track(s) (Please include all tracks offered by the program under the respective degree, including total number of credits. Examples: 150 semester undergraduate credit hours Undergraduate degree with architecture major + 60 graduate semester credit hours Undergraduate degree with non-architecture major + 90 graduate semester credit hours)	<input type="checkbox"/> <u>Bachelor of Architecture</u> Track: <input checked="" type="checkbox"/> <u>Master of Architecture</u> Track: M. Arch Four Studio Track (preprofessional degree + 60 credits) Track: M. Arch Six Studio Track (non-architectural degree + 105 credits) <input type="checkbox"/> <u>Doctor of Architecture</u> Track: Track:
Year of Previous Visit	2023 (most recent) 2015 (previous visit)
Current Term of Accreditation (refer to most recent decision letter)	Continuing Accreditation (Eight-Year Term with a Plan to Correct)
Program Administrator	Marc Swackhamer, Department Chair and Professor
Chief Administrator for the academic unit in which the program is located (e.g., dean or department chair)	Marc Swackhamer, Department Chair and Professor Stephanie Santorico, PhD, Interim Dean, College of Architecture and Planning
Chief Academic Officer of the Institution	Constancio Nakuma, Provost, CU Denver
President of the Institution	Todd Saliman, President, University of Colorado System
Individual submitting the APR	Marc Swackhamer, Department Chair and Professor
Name and Email Address of Individual to Whom Questions Should Be Directed	Marc Swackhamer marc.swackhamer@ucdenver.edu



Plan to Correct Form

<p>Conditions Not Met List the number and title of each condition that must be addressed in the Plan to Correct.</p>	<p>Corrective Actions Provide a narrative describing the corrective actions that have been taken and those that are planned but not yet implemented. For all actions taken, provide supporting evidence as described under the relevant Condition in the 2020 Conditions and 2020 Guidelines for the Accreditation Process.</p>	<p>Timeline List the timeline for all corrective actions, including actual or planned start and completion dates.</p>
<p>SC.5 Design Synthesis</p>	<p>Program Narrative:</p> <p>The NAAB 2023 Visiting Team Report, March 08-10, indicated that the CU Denver Master of Architecture Program did not meet Student Criteria 5, Design Synthesis. The report said, “Student work samples from ARCH 6170 and ARCH 6171 from spring 2022, did not provide consistent evidence of student ability to address each of the SC.5 Design Synthesis sub criteria.”</p> <p><u>STEPS TAKEN.</u> To address this “not met” criterium, the program took the following steps:</p> <ul style="list-style-type: none"> • Team Coordination/Communication: The instructional team for Graduate Studio VI (ARCH 6170) and Integration Seminar (ARCH 6171) met with the Department Chair to review SC.5 and SC.6 and their ten sub criteria. They also reviewed the 2023 VTR with comments from the Visiting Team on why SC.5 and SC.6 were determined to be “Not Met.” This review and discussion informed key areas of improvement. • Syllabi Rewrites: The team rewrote syllabi and course exercises to ensure that every student project demonstrated ability in each sub criteria. They identified each NAAB Student Criteria in their syllabi. • Integration Seminar Overhaul: A new instructor of Integration Seminar (Arch 6171) was strategically hired for spring semester, 2024, and will teach the course again in spring 2025. His name is Yasser El Masri. He is a Lead Researcher at the US National Renewable Energy Laboratory and has a PhD in Sustainable Design from Georgia Tech University, where he also taught building technology and building science. In coordination with Studio VI, he covered all sub criteria in SC.5 and SC.6 one-by-one to ensure understanding and ability. • Licensed Architect Evaluators: The department identified three licensed architects in Denver, Colorado to review each student project at the end of the semester. These included Wells Squier, AIA, Past President of AIA Colorado, Sarah Broughton, FAIA, Past President of AIA Colorado, and James Childs, AIA, Past Treasurer of AIA Colorado. The department offered each architect a small honorarium for this work. • Student Messaging: Students were informed by the department chair, Studio VI instructors, and Integration Seminar instructor, at the start of the spring semester, that their projects would be independently reviewed by licensed architects and that they would not be permitted to pass the courses, and subsequently graduate, if they did not satisfactorily meet SC.5 and SC.6 and all ten of their sub criteria. 	<p>Early fall semester 2023:</p> <p>Department chair developed a plan for rostering Studio VI and Integration Seminar and for inviting licensed architects to assess student work to ensure all students meet SC.5 and SC.6.</p> <p>The department chair hired new faculty member, Yasser El Masri, to redesign and teach the Integration Seminar, in close collaboration with Studio VI teaching team.</p> <p>Late fall semester 2023:</p> <p>The department chair held a special meeting with Studio VI and Integration Seminar teaching team to review NAAB Visiting Team Report and Student Criteria 5 and 6 in detail.</p> <p>Studio VI and Integration Seminar teaching team rewrote syllabi to more carefully cover SC.5 and SC.6 and to ensure that the criteria are met by all student teams.</p> <p>Early spring semester 2024:</p> <p>The Studio VI and Integration Seminar instructors met regularly to ensure close communication and coordination of exercises intended to ensure all students met SC.5 and SC.6.</p> <p>The department chair invited three licensed architects to evaluate all student work from Studio VI and Integration Seminar.</p> <p>Late spring semester:</p> <p>The department chair created an assessment rubric for the licensed architects to use in their</p>

Conditions Not Met <i>List the number and title of each condition that must be addressed in the Plan to Correct.</i>	Corrective Actions <i>Provide a narrative describing the corrective actions that have been taken and those that are planned but not yet implemented. For all actions taken, provide supporting evidence as described under the relevant Condition in the 2020 Conditions and 2020 Guidelines for the Accreditation Process.</i>	Timeline <i>List the timeline for all corrective actions, including actual or planned start and completion dates.</i>
	<ul style="list-style-type: none"> • Assessment Rubric: The department chair prepared an Assessment Rubric that each licensed architect followed at the end of the semester to determine if each sub criteria was “met” or “unmet.” • Collection of Student Work: The department chair created a digital online folder for each student project team. Teams uploaded studio projects and related work from the Integration Seminar. • Independent Assessment of Student Work: Each student project was evaluated twice, by two of the three licensed architects. An assessment rubric determined whether students met each sub criteria. The architects also offered qualitative comments for SC.5, SC.6, and their overall thoughts on each project. • Final Evaluation: For spring of 2024, it was determined by this independent panel of highly experienced, licensed architects that all the students in Studio VI and Integration Seminar met all ten sub criteria of SC.5 and SC.6. Some criteria were met more successfully than others, but all were met. <p><u>ASSESSMENT IMPROVEMENTS FOR NEXT YEAR.</u> This past year was a pilot of this Studio VI and Integration Seminar Assessment Process. Based on how the process went and feedback from the three licensed architects, the following changes to the process itself will be made for spring semester of 2025:</p> <ul style="list-style-type: none"> • Engagement with the reviewers: It was suggested that it would be beneficial for the students to hear directly from the licensed architect reviewers about their assessments, so that they can be made aware of general trends and overall reflections. • Volume of work to review: All three licensed architects reported that the volume of work was too much for three architects to reasonably assess. Next year, the number of reviewers will be increased to reduce the number of projects to about 4 or 5 per architect. This will make the assessment process much more manageable. • Emphasis on attention to detail: There were too many spelling and grammatical errors in the student work. Given access to digital tools, there should not be spelling errors, and the documents should be clean and error free, as much as possible. Attention to detail is vitally important in architecture and so the department will communicate this to the teaching team and to the students. • Structural design: There were general questions from the architects about why students focused so much on steel in their structural design when the industry is moving away from steel. The department explained that while steel structure is likely a reflection of the faculty teaching the studio and the building technology classes 	<p>evaluation of the student work and distributed it those architects for review. The department chair fielded questions and provided detailed instructions.</p> <p>The department provided an “exemplary” project example for the licensed architects to review from the previous year’s Studio VI and Integration Seminar.</p> <p>May 2, 2024:</p> <p>Student work was reviewed through a final studio pin-up.</p> <p>May 3, 2024:</p> <p>All students uploaded work from Studio VI and Integration Seminar to dedicated folders.</p> <p>May 6, 2024:</p> <p>Three licensed architects were given access to folders of student work.</p> <p>May 10, 2024:</p> <p>Licensed architects completed evaluation of student work and uploaded completed assessment rubrics to dedicated folders for each student team.</p> <p>The department reviewed assessment rubrics to determine if any student teams did not meet criteria.</p> <p>It was determined by the team of licensed architects that all student teams met SC.5 and SC.6. If any team had not met any of the sub criteria, the plan was to inform that student team and to provide them with three weeks to update their work. Then, the work would have been reevaluated to determine if enough improvement had been made to satisfy the</p>

Conditions Not Met <i>List the number and title of each condition that must be addressed in the Plan to Correct.</i>	Corrective Actions <i>Provide a narrative describing the corrective actions that have been taken and those that are planned but not yet implemented. For all actions taken, provide supporting evidence as described under the relevant Condition in the 2020 Conditions and 2020 Guidelines for the Accreditation Process.</i>	Timeline <i>List the timeline for all corrective actions, including actual or planned start and completion dates.</i>
	<p>students have previously taken, the department agreed that this would be a productive topic of conversation. It was generally felt that much of the industry is moving towards mass timber and wood construction.</p> <ul style="list-style-type: none"> Design process work: The architects wanted to see more process work. While it is undesirable to make the submissions any longer, a few pages dedicated to process work would be helpful for the reviewing architects to see. The architects observed that some of the comprehensive work seems to be applied rather than considered meaningfully as part of a holistic design process. This too is a meaningful topic of conversation for next spring semester. <p><u>CURRICULUM IMPROVEMENTS FOR NEXT YEAR.</u> Based on the feedback from the course assessments, the full-time faculty members teaching in Studio VI developed a set of planned improvements for spring of 2025. To understand which specific sub-criteria were identified for improvement and what steps will be taken to make improvements, please see the following supplemental documents appended to this document:</p> <ul style="list-style-type: none"> CU Denver Master of Architecture Studio VI Assessment Spring Semester 2024 CU Denver Master of Architecture Studio VI Improvement Plan Spring Semester 2025 <p><u>CONCLUSION.</u> Overall, the pilot of this assessment program was a success. It created a palpable awareness, for both faculty and students, of the importance of the M. Arch program meeting NAAB SC.5 and SC.6. It also created a measurable and documented record by experts in the field of architecture that each student team is meeting the criteria, with clear areas of improvement outlined.</p> <p>The licensed architects were not coached in any way to evaluate the work positively or negatively, and were encouraged to provide their honest, unbiased assessments of the work. They did not know the students and the students did not know them. With next year's assessment process and curricular improvements, which will be implemented for spring of 2025, the program will continue to improve and the overall quality of the student work, as a result, will reach new levels of quality.</p>	<p>criteria as being met. This year, this step was not necessary.</p> <p>Early summer 2024:</p> <p>Studio VI and Integration Seminar instructors were sent the completed assessment rubrics to use in making improvements to their courses.</p> <p>Summer 2024:</p> <p>Studio VI and Integration Seminar instructors planned a set of curricular changes to implement in spring of 2025. See the appended document "CU Denver Master of Architecture Studio VI Improvement Plan Spring Semester 2023."</p> <p>Fall 2024:</p> <p>The department chair will review this improvement plan with the governing, full-time architecture faculty for final approval and to make any refinements.</p> <p>Spring 2025:</p> <p>Studio VI and Integration Seminar teaching team will implement curricular changes.</p> <p>Work will be assessed again by team of licensed architects and changes will be implemented again, based on feedback in spring of 2026.</p>



Conditions Not Met <i>List the number and title of each condition that must be addressed in the Plan to Correct.</i>	Corrective Actions <i>Provide a narrative describing the corrective actions that have been taken and those that are planned but not yet implemented. For all actions taken, provide supporting evidence as described under the relevant Condition in the 2020 Conditions and 2020 Guidelines for the Accreditation Process.</i>	Timeline <i>List the timeline for all corrective actions, including actual or planned start and completion dates.</i>
	<p>Supporting Evidence:</p> <p>Appended to this document are the following pieces of supporting evidence:</p> <ul style="list-style-type: none"> • CU Denver Master of Architecture Studio VI Assessment Spring Semester 2024 • CU Denver Master of Architecture Studio VI Improvement Plan Spring Semester 2025 • Blank SC.5 and SC.6 Assessment Rubric • Example Completed Assessment Rubrics for student team • Syllabi from all three sections of Studio VI (ARCH 6170) • Syllabus from Integration Seminar (ARCH 6171) 	
SC.6 Building Integration	<p>Program Narrative:</p> <p>The NAAB 2023 Visiting Team Report, March 08-10, indicated that the CU Denver Master of Architecture Program did not meet Student Criteria 6, Building Integration. The report said, “Student work samples from ARCH 6170 Design Studio VI and ARCH 6171 Integration Seminar, did not provide consistent evidence of student ability to address each of the SC.6 Building Integration sub criteria.”</p> <p>To address this “not met” criterium, the program took the steps outlined above under SC.5 Design Synthesis. Please see the section above for details.</p> <p>Supporting Evidence:</p> <p>Please see supporting evidence section above.</p>	<p>Please see the timeline above for SC.5, Design Synthesis. The timeline for SC.6 Building Integration is the same.</p>

Student Learning Outcome	Assessment Method	Target/ Benchmark					Quantitative Assessment Results					Selected Reviewer Comments
SC.5 Design Synthesis		Expectation Met			Expectation Unmet		Expectation Met			Expectation Unmet		
Synthesis of user requirements	Virtual Assessment via SC.5/ SC.6 Rubric: Three licensed architects were hired by department to evaluate the technical competency of the student work based on a rubric outlining the NAAB Criteria 5 and 6. Student groups uploaded their final studio and integration seminar work at the conclusion of the seminar. Each project was randomly assigned to two of the three total invited technical reviewers so that each project was reviewed twice. Each reviewer used the provided SC.5/ SC.6 rubric which was created to mirror NAAB requirements for accreditation within these criterion. Technical Reviewers completed their assessments over 5 days, virtually and remotely. Completed assessments were then returned to and reviewed by Studio Instructors and Student Groups.	Exemplary 20%	Proficient 60%	Adequate 20%	Marginal 0%	Poor 0%	Exemplary 38%	Proficient 52%	Adequate 10%	Marginal 0%	Poor 0%	"It appears there is only one restroom per floor, and that may be problematic in operations." "access of both pedestrian and vehicles needs development. Parking quantities should also be defined and shown."
Synthesis of regulatory requirements		Exemplary 20%	Proficient 60%	Adequate 20%	Marginal 0%	Poor 0%	Exemplary 33%	Proficient 38%	Adequate 29%	Marginal 0%	Poor 0%	"Code requirements for exiting distances, and numbers of exits per occupants needs more study." "Very easy to understand the regulatory requirements. Thank you for not just regurgitating the code."
Synthesis of site conditions		Exemplary 20%	Proficient 60%	Adequate 20%	Marginal 0%	Poor 0%	Exemplary 31%	Proficient 45%	Adequate 24%	Marginal 0%	Poor 0%	"Love how the building integrates with the landscape allowing there to be a slipping between the landscape and the building. The resulting exterior spaces are compelling." "I feel the depiction of landscaping amplifies the more human scale."
Synthesis of accessible design		Exemplary 20%	Proficient 60%	Adequate 20%	Marginal 0%	Poor 0%	Exemplary 29%	Proficient 38%	Adequate 33%	Marginal 0%	Poor 0%	"The exiting is challenged by these forms, and the rooftop will need more than one exit." "Keep pursuing how one interacts with the green space and the opportunity for more connection and accessibility through it."
Consideration of measurable environmental impacts		Exemplary 20%	Proficient 60%	Adequate 20%	Marginal 0%	Poor 0%	Exemplary 29%	Proficient 38%	Adequate 33%	Marginal 0%	Poor 0%	"I would have liked to see more methods defined on the energy usage and mitigation of heat loss/gain." "Detailed descriptions of the energy efficiencies were very positive."
Overall Design Synthesis		Exemplary 20%	Proficient 60%	Adequate 20%	Marginal 0%	Poor 0%	Exemplary 43%	Proficient 38%	Adequate 19%	Marginal 0%	Poor 0%	"Interesting site integration, and seemingly good synthesis of user requirements." "This 'checked the boxes' as there was a graphic explaining the solutions, and one of the few projects which dealt more effectively with exiting."
SC.6 Building Integration		Expectation Met			Expectation Unmet		Expectation Met			Expectation Unmet		
Integration of building envelope systems and assemblies		Exemplary 20%	Proficient 60%	Adequate 20%	Marginal 0%	Poor 0%	Exemplary 48%	Proficient 24%	Adequate 29%	Marginal 0%	Poor 0%	"Greatly appreciated the references to materiality studies, and uses in the design." "The specific use of materials, especially structural should be better defined"
Integration of structural systems		Exemplary 20%	Proficient 60%	Adequate 20%	Marginal 0%	Poor 0%	Exemplary 43%	Proficient 40%	Adequate 17%	Marginal 0%	Poor 0%	"I would like to see a more detailed understanding of how the bridge levels are supported by the towers on each end." "Good understanding of structure, although some images suggest additional vertical support might be required." "Some proportion and scale issues recognized with certain circulation and structural elements."
Integration of environmental control systems		Exemplary 20%	Proficient 60%	Adequate 20%	Marginal 0%	Poor 0%	Exemplary 33%	Proficient 38%	Adequate 29%	Marginal 0%	Poor 0%	"Very well explained systems, although there will efficiency issues created with the challenges of a robust Mech system to provide individual unit control" "The section diagram showing the natural ventilation flow is effective."
Integration of life safety systems		Exemplary 20%	Proficient 60%	Adequate 20%	Marginal 0%	Poor 0%	Exemplary 24%	Proficient 30%	Adequate 36%	Marginal 0%	Poor 0%	"More definition of the various systems would be expected."
Measurable outcomes of building performance		Exemplary 20%	Proficient 60%	Adequate 20%	Marginal 0%	Poor 0%	Exemplary 31%	Proficient 26%	Adequate 43%	Marginal 0%	Poor 0%	"Items were covered in a professional way, and I also appreciated the references to the solar effects at spring and fall." "Good analysis on the costs to run the building."
Overall Building Integration		Exemplary 20%	Proficient 60%	Adequate 20%	Marginal 0%	Poor 0%	Exemplary 38%	Proficient 38%	Adequate 24%	Marginal 0%	Poor 0%	"Overall building integration is considered and it is clear in the presentation." "Great overall building integration and attempt to coordinate the systems."

*The six sub-criteria highlighted above were the most concerning and represent the areas of focus for planned curricular changes in academic year 2024/25

Student Learning Outcome	General Reflection on Results	Plan to Improve			
SC.5 Design Synthesis					
<p>Synthesis of regulatory requirements</p> <table border="1" data-bbox="50 331 375 510"> <tr> <td>Exemplary 33%</td> <td>Proficient 38%</td> <td>Adequate 29%</td> </tr> </table>	Exemplary 33%	Proficient 38%	Adequate 29%	<p>Based on this year's assessment, the faculty felt that there was an overall improvement in the Studio VI and Integration Seminar work since the previous years during the COVID pandemic.</p> <p>The faculty also observed that generationally, students tend to be bit more siloed with their learning, meaning what they learn in one course does not always get applied in another course, particularly in design studio. Virtually of these topics have been covered in non-studio courses, but students have not had practice applying them in studio. So, stronger coordination, scaffolding, repeated messaging, and collectively agreed-upon definitions will be essential to improvement.</p>	<p>Precedent Study: Studio VI will incorporate a rigorous precedent study, examining how a selected building meets all ten sub-criteria of SC.5 and SC.6. Students will assess these buildings using a similar rubric to the one used to assess their own projects at the end of the semester. Precedent studies will be shared resources available across all studio sections.</p> <p>Shared lectures: Faculty will develop a series of shared lectures across all sections of Studio VI focusing on specifically incorporating each sub-criteria into their design projects, demonstrating how architecture firms accomplish this in their practices.</p> <p>Earlier Scaffolding: Earlier courses will begin introducing this sub-criteria as a part of any design process. For this sub-criteria, Studios II and III will explicitly incorporate principles into syllabi and course discussions.</p> <p>Continued improvement to end-of-semester assessment: Department will continue to hire licensed architects to evaluate student work against SC.5 and SC.6. Lessons learned from assessment in spring 2024 will be incorporated into the next assessment cycle.</p>
Exemplary 33%	Proficient 38%	Adequate 29%			
<p>Synthesis of accessible design</p> <table border="1" data-bbox="50 583 375 730"> <tr> <td>Exemplary 29%</td> <td>Proficient 38%</td> <td>Adequate 33%</td> </tr> </table>	Exemplary 29%	Proficient 38%	Adequate 33%	<p>There are four overall strategies that the faculty agreed would improve results in SC.5 and SC.6. These include 1.) the incorporation of a rigorous precedent study, 2.) a regular series of shared guest lectures in studio, 3.) earlier scaffolding of the criteria and subcriteria in the curriculum, and 4.) an ongoing, continuous improvement to the assessment process.</p> <p>For a few of the sub-criteria, a fifth improvement strategy will involve more clearly defining the terms outlined in the criteria so that department is unified in its understanding of the terms.</p> <p>In addition to the concrete improvements listed to the right, a light version of Integration Seminar will be discussed with the faculty to potentially include earlier in the curriculum.</p>	<p>Precedent Study: See definition/strategy above above.</p> <p>Shared lectures: See definition/strategy above.</p> <p>Earlier Scaffolding: See definition/strategy above. For this sub-criteria, Building Construction I and II, and Studios I, II, and III will explicitly incorporate principles into syllabi and course discussions.</p> <p>Continued improvement to end-of-semester assessment: See definition/strategy above above.</p>
Exemplary 29%	Proficient 38%	Adequate 33%			
<p>Consideration of measurable environmental impacts</p> <table border="1" data-bbox="50 804 375 982"> <tr> <td>Exemplary 29%</td> <td>Proficient 38%</td> <td>Adequate 33%</td> </tr> </table>	Exemplary 29%	Proficient 38%	Adequate 33%	<p>Also, a bit more coordination will be necessary, in the future, for Studio VI so that adjunct faculty members teaching at this level are provided with a bit more guidance.</p> <p>General messaging, moving forward, for all studios will be that things like accessible design, environmentally conscious design, and safe design are qualities of "good design" more generally. So familiarizing students with these principles as early as Studio I, in some cases, and then at least touching on the principles in every studio thereafter will be important.</p>	<p>Precedent study: See definition/strategy above above.</p> <p>Shared lectures: See definition/strategy above.</p> <p>Earlier Scaffolding: See definition/strategy above. For this sub-criteria, Sustainable Building Systems I and II and Studio III will explicitly incorporate principles into syllabi and course discussions.</p> <p>Continued improvement to end-of-semester assessment: See definition/strategy above above.</p> <p>Define environmental impact: Faculty will develop an agreed upon definition of this internally. This is a broad criteria and so the department must more clearly define what it wants students to measure in their projects.</p>
Exemplary 29%	Proficient 38%	Adequate 33%			
SC.6 Building Integration					
<p>Integration of environmental control systems</p> <table border="1" data-bbox="50 1077 375 1192"> <tr> <td>Exemplary 33%</td> <td>Proficient 38%</td> <td>Adequate 29%</td> </tr> </table>	Exemplary 33%	Proficient 38%	Adequate 29%	<p>See comments above.</p>	<p>Precedent study: See definition/strategy above above.</p> <p>Shared lectures: See definition/strategy above.</p> <p>Earlier Scaffolding: See definition/strategy above. For this sub-criteria, Sustainable Building Systems I and II and Studio III will explicitly incorporate principles into syllabi and course discussions.</p> <p>Continued improvement to end-of-semester assessment: See definition/strategy above above.</p> <p>Define environmental control system: Faculty will develop an agreed upon definition of this internally. This is a broad criteria and so the department must more clearly define what it wants students to measure in their projects.</p>
Exemplary 33%	Proficient 38%	Adequate 29%			
<p>Integration of life safety systems</p> <table border="1" data-bbox="50 1266 375 1339"> <tr> <td>Exemplary 24%</td> <td>Proficient 30%</td> <td>Adequate 36%</td> </tr> </table>	Exemplary 24%	Proficient 30%	Adequate 36%		<p>Precedent Study: See definition/strategy above above.</p> <p>Shared lectures: See definition/strategy above.</p> <p>Earlier Scaffolding: See definition/strategy above. For this sub-criteria, Building Construction I and II, and Studios I, II, and III will explicitly incorporate principles into syllabi and course discussions.</p> <p>Continued improvement to end-of-semester assessment: See definition/strategy above above.</p>
Exemplary 24%	Proficient 30%	Adequate 36%			
<p>Measurable outcomes of building performance</p> <table border="1" data-bbox="50 1413 375 1514"> <tr> <td>Exemplary 31%</td> <td>Proficient 26%</td> <td>Adequate 43%</td> </tr> </table>	Exemplary 31%	Proficient 26%	Adequate 43%		<p>Precedent study: See definition/strategy above above.</p> <p>Shared lectures: See definition/strategy above.</p> <p>Earlier Scaffolding: See definition/strategy above. For this sub-criteria, Sustainable Building Systems I and II and Studio III will explicitly incorporate principles into syllabi and course discussions.</p> <p>Continued improvement to end-of-semester assessment: See definition/strategy above above.</p> <p>Define building performance: Faculty will develop an agreed upon definition of this internally. This is a broad criteria and so the department must more clearly define what it wants students to measure in their projects.</p>
Exemplary 31%	Proficient 26%	Adequate 43%			

Graduate Studio VI - SC.5 & SC.6 Assessment

Instructor Name: _____

Group Name(s): _____

Reviewer Name: _____

Date of Review: _____

SC.5 - Design Synthesis

The ability to make design decisions within architectural projects while demonstrating synthesis of user requirements, regulatory requirements, site conditions, and accessible design, and consideration of the measurable environmental impacts of their design decisions.

Criteria	Expectation Met			Expectation Unmet	
	exemplary	proficient	adequate	marginal	poor
Synthesis of user requirements					
Synthesis of regulatory requirements					
Synthesis of site conditions					
Synthesis of accessible design					
Consideration of measurable environmental impacts					
Overall Design Synthesis					

Notes: _____

SC.6 - Building Integration

The ability to make design decisions within architectural projects while demonstrating integration of building envelope systems and assemblies, structural systems, environmental control systems, life safety systems, and the measurable outcomes of building performance.

Criteria	Expectation Met			Expectation Unmet	
	exemplary	proficient	adequate	marginal	poor
Integration of building envelope systems and assemblies					
Integration of structural systems					
Integration of environmental control systems					
Integration of life safety systems					
Measurable outcomes of building performance					
Overall Building Integration					

Notes: _____

Overall Comments

Graduate Studio VI - SC.5 & SC.6 Assessment

Instructor Name: _____

Group Name(s): _____

Reviewer Name: _____

Date of Review: _____

SC.5 - Design Synthesis

The ability to make design decisions within architectural projects while demonstrating synthesis of user requirements, regulatory requirements, site conditions, and accessible design, and consideration of the measurable environmental impacts of their design decisions.

Criteria	Expectation Met			Expectation Unmet	
	exemplary	proficient	adequate	marginal	poor
Synthesis of user requirements					
Synthesis of regulatory requirements					
Synthesis of site conditions					
Synthesis of accessible design					
Consideration of measurable environmental impacts					
Overall Design Synthesis					

Notes: _____

SC.6 - Building Integration

The ability to make design decisions within architectural projects while demonstrating integration of building envelope systems and assemblies, structural systems, environmental control systems, life safety systems, and the measurable outcomes of building performance.

Criteria	Expectation Met			Expectation Unmet	
	exemplary	proficient	adequate	marginal	poor
Integration of building envelope systems and assemblies					
Integration of structural systems					
Integration of environmental control systems					
Integration of life safety systems					
Measurable outcomes of building performance					
Overall Building Integration					

Notes: _____

Overall Comments

University of Colorado
College of Architecture & Planning
Spring 2024

ARCHITECTURAL DESIGN Arch6170: Design Studio

<https://ucdenver.zoom.us/j/91603978060>

Professor: Osman Attmann, Ph.D.
Classroom: Zoom [Meeting ID: 916 0397 8060]
Office Room: Zoom [Meeting ID: 990 1768 6351]

Credits: Six
Time of Class: Mon/Thu 13:00-18:00

Office Hours: Mon/Thu 11:00-12:30 via Zoom (<https://ucdenver.zoom.us/j/99017686351>)
E-mail: o.attmann@ucdenver.edu



STEEL INNOVATION CENTER

Design Objective

The objective of this studio is design a Steel Innovation Construction Center in downtown St. Louis. Students are challenged to propose construction systems in scenarios that draw optimally on the performance characteristics of not one but a variety of steel technologies and are encouraged to think about the site as a testing ground for socially, materially, and environmentally innovative models of sustainable urban building. Program spaces include areas for exhibition, fabrication, training, and community outreach. Steel is the primary material.

Design Problem

The global pandemic disrupted construction and illustrated many of the AEC industry's inefficiencies, redundancies, and limitations. This project is for the design of a new, national steel construction innovation center, to be located in the heart of the mid-West, where members of the AEC could research, exhibit, integrate, and teach construction innovations. Explorations at the steel innovation center could include: how to

incorporate digital tools such as CAD/CAM processes, robotics, BIM, paperless delivery methods, virtual and augmented reality, and AI? How might steel construction add to sustainability discussions such as future proofing, climate resilience, energy performance, embodied carbon and energy of building materials, and energy generation? How might our buildings ensure the health and wellness of their occupants? How to integrate new building materials and details, assembly techniques, and construction methods? Steel is an ideal structural system for this building. It allows for large openings, sunlight and easy airflow, flexible layouts, and innovative approaches to services. Steel can be easily modified during the life cycle of a building to accommodate changing requirements. This competition asks students to consider how steel can be used in a resilient manner for a center focused on innovation for the steel and construction industry.

**Construction
Material**

The design project must be conceived in structural steel construction and must contain at least one space/element that requires long-span steel structure, with special emphasis placed on innovation in steel design. The most compelling proposals will inevitably integrate the use of steel into the design of the project at multiple levels, from primary structure to building envelope and tectonic details.

Site

The site is in St. Louis, MO along the Mississippi River just to the south of the Gateway Arch and is part of the city's future development of Gateway South. It is a wedge-shaped lot bounded the river's levee wall on the east, the highway overpass on the north, the elevated rail lines to the west, and the elevated steel lines and MacArthur Bridge to the south.

All permanently occupied spaces with equipment must be located west or above the levee wall to minimize flood damage from the River. It is possible, but not required, to cantilever or span over the levee wall up to the property line indicated.

The area is located within a flood zone and flood resilience must be maintained, however the levee wall, also known as the Mural Mile, can be reconfigured or moved away from the River, or made taller if desired. The site is highly visible from Congressman William L. Clay, Sr. Bridge, or I-55/I-64. The MacArthur Bridge only serves rail traffic.



Key Objectives

The following goals have been identified for the studio:

To understand the impact of your design on human health, safety, and welfare of the end users and the public.

To understand the fundamental principles of life safety, land use, and current laws and regulations that apply to your project (site & building)

To understand the established and emerging systems, technologies, and assemblies of building construction.

To understand the use of materials and construction methods against your design, economics, and performance objectives of your project.

Program Requirements

The steel innovation center is to support a wide range of functions and users. Its primary purpose is to provide hands-on opportunities for full scale construction steel research and training. Large vehicles, trailers, and construction equipment should be able to fully access the fabrication and training spaces. Building users will include researchers, staff, teachers, trainees, tour groups, and interested public.

A small daycare is to provide on-site support for staff and students. Daycare access is a primary stumbling block for people entering the training program. The building should balance the need for construction equipment access and circulation with safety for the public and daycare children. The following is a list of programmatic spaces that must be included in the building. Solutions should observe the given spaces and sizes within a range of plus or minus ten percent:

Community Area

Community Exhibit/Entertainment Area	5,000 sq. ft.
Community Lobby and Reception	1,000 sq. ft.
Public Restrooms	2,000 sq. ft.
Restrooms for visitors, including family restrooms.	
Services at 20%	1,600 sq. ft.
<i>including corridors, mechanical, and other service spaces</i>	
Community Area Subtotal	9,600 sq. ft.

Steel Innovation Fabrication

Three Open Bays:	14,400 sq. ft. each	43,200 sq. ft.
40' height clearance minimum under the structure and 30' clear under the crane with an area of 60' x 240' served by a crane or some system that easily moves steel pieces and prefabricated elements. Provide overhead doors for access to the exterior yard.		
Interior Loading/Unloading		3,000 sq. ft.
Exterior truck loading area large enough for semi-trucks to maneuver, separate from the exterior yard. Two loading dock doors: for semis, plus an access door to the interior loading/unloading area.		
Four Workshop/Laboratory	5,000 sq. ft. each	20,000 sq. ft.
40' minimum interior clearance height under the structure, with 30' clear under any crane equipment		
Two Locker Areas	500 sq. ft. each	1,000 sq. ft.
Restrooms for researchers and trainees, including family restrooms.		
Services at 10%		6,720 sq. ft.
<i>including mechanical and corridors</i>		
Innovation Fabrication Subtotal		73,920 sq. ft.
Exterior Yard (not to be included in the building total)		40,000 sq. ft. (exterior space)
<i>20% to be covered for equipment storage.</i>		

Classrooms and Offices

Training Room		10,000 sq. ft.
	Flexible, tall space for various hands-on training that might include welding, bolting, CNC operation, etc.	
Four Classrooms	600 sq. ft. each	2,400 sq. ft.
Six Offices	120 sq. ft. each	720 sq. ft.
Copy Room		120 sq. ft.
Storage Room		120 sq. ft.
Lunchroom		400 sq. ft.
Two Locker Areas	250 sq. ft. each	500 sq. ft.
	Restrooms for researchers and trainees, including family restrooms.	
Two Daycare Spaces	1,500 sq. ft. each	3,000 sq. ft.
	One area for playing and another for sleeping.	
Daycare Bathroom		500 sq. ft.
Daycare Drop-off Area		
Daycare Protected Exterior Play		1000 sq. ft. (exterior space)
	Not to be included in the building total.	
Services at 20%		3,552 sq. ft.
	including corridors, mechanical, and other service spaces	
<i>Classrooms and Office Subtotal</i>		<i>21,312 sq. ft.</i>

BUILDING TOTALS

104,832 sq. ft.

Additional Program Considerations

Consider daylight, security and safety for the daycare, connection to the exterior areas, and resilience for the facility spaces and equipment.

- Site Space and Requirements
- Parking for 40 cars
- Parking for 10 visitor cars and a school bus
- Daycare Drop-off
- Exterior Daycare Play Area
- Fabrication Yard
- Loading Area

Design Methodology

This studio uses the “IdeaLab” methodology which is a rapid iterative process that allows teams of varied individuals to work together to solve design problems. It is about collaboration, iteration and idea creation.

Prior knowledge of digital media (CAD, 3D modeling, rendering and presentation) is recommended but not required.

Students will work in TEAMS for their design proposals.

Evaluation / Grading

Your grades will be based on weekly assignments, midterm and final presentations. Your projects will be evaluated based on the following criteria:

- Creative use of structural steel in the design solution with a minimum of one long-span space;
- Clear visionary positions & creative design approaches that envision a sacred space for the twenty-first century;
- Successful response to basic architectural integration with

- structure;
- A compelling response to the physical and cultural context of the project;
- A mature awareness of and an innovative approach to sustainability as a convergence of social, economic and environmental issues;
- A through appreciation of human needs and social responsibilities;
- A thoughtful process shown in the performance evaluation.

Grade Distribution	#	points	total	%
Weekly Assignments	8	20	160	16%
Midterm Presentation	1	260	240	24%
Final Presentation	1	600	600	60%
FINAL GRADE			1000	100%

Your grade may be determined at any time throughout the semester by dividing the total number of points earned by the total of points possible at that time. Then, multiply that score by the above percentages. Your final grade will be determined based on the range of your accumulated total points. Your final grade will be determined based on the range of your accumulated total points. See the chart below:

Final Grade Distribution

Points Accumulated	Letter Grade	Credit Pts	%	
930-1000	A	4	93.0%	- 100.0%
900-929	A-	3.7	90.0%	- 92.9%
870-899	B+	3.3	87.0%	- 89.9%
830-869	B	3	83.0%	- 86.9%
800-829	B-	2.7	80.0%	- 82.9%
770-799	C+	2.3	77.0%	- 79.9%
730-769	C	2	73.0%	- 76.9%
700-729	C-	1.7	70.0%	- 72.9%
670-699	D+	1.3	67.0%	- 69.9%
630-669	D	1	63.0%	- 66.9%
600-629	D-	0.7	60.0%	- 62.9%
0-599	F	0	0.0%	- 59.9%

Design Criteria

- The level of accomplishment of the key objectives.
- The degree of interpretation, innovation and creativity
- The ability to integrate functional aspects of the program in an appropriate manner
- The successful integration of the facility into the surrounding context
- A response to central architectural concepts such as human activity needs, climatic considerations, structural integrity, cultural influences, site planning, creative insight, coherence of architectural vocabulary
- The ability to choose and use materials (structural and non-structural) creatively, to respond to the environmental context, and to create sustainable architecture

Requirements

1. Research
 1. Site
 2. Zoning Ordinances
 3. Vernacular/City Mixed-use Architecture
 4. Case-Studies
 5. Green Architecture
2. Design
 1. Conceptual
 2. Regulatory Context
 3. Programmatic
 4. Structural
 5. Building Type & Form
 6. Sustainability
 7. Envelope & Materials
3. Development
 1. Concept Studies
 2. Architectural Drawings
 3. Construction Details
 4. Detail Models
4. Presentation
 1. Four 20" X 20" Boards
 2. Design Essay or Abstract
 3. Program Summary
 4. Digital Models (Block& Site & Building)
 5. Design booklet

UCD Regulations

Course Drop Policy

Any student may decide to drop this course without notice to the instructor as per the University guidelines. This issue shall be treated as completely between the student and the University administration.

Academic Misconduct

The University and the instructor have a responsibility to promote academic honesty and integrity and to develop procedures to deal effectively with instances of academic dishonesty. Students are

responsible for the honest completion and representation of their own designs, drawings, and models, as well as, respect of others academic endeavors. Each student must work independently on his or her own assignments. The sharing of and dissemination of knowledge is encouraged but the work done to fulfill the assignments must be completed solely by each student. It may seem easy to duplicate digitally based work but it is also very easy to detect this deceptive duplication.

Aggravation, Discrimination and Harassment

Any expression of prejudice or disrespect in regard to race, gender, national origin, sexual orientation or religion will not be tolerated in the studio. If you believe you are the object of such abuse, please try to resolve the problem directly in a calm and polite manner. If this does not work please bring your concern to the attention of the instructor and the University grievance officer will handle the matter. Please refer to the University student handbook for the proper procedure to follow in these cases.

Disabilities And Special Needs

Students with disabilities who want academic accommodations must register with Disability Resources and Services (DRS), 177 Arts Building, 303-556-3450, TTY 303- 556-4766, FAX 303-556-2074. DRS requires students to provide current and adequate documentation of their disabilities. Once a student has registered with DRS, DRS will review the documentation and assess the student's request for academic accommodations in light of the documentation. DRS will then provide the student with a letter indicating which academic accommodations have been approved.

Religious Observances

Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments, or required attendance. In this class, we will work with individuals on a case-by-case basis. Please contact the instructor in a timely manner so that accommodations can be arranged.

Academic Honesty & Plagiarism

Students are expected to know, understand, and comply with the ethical standards of the university, including rules against plagiarism. Plagiarism is the use of another person's ideas or words without acknowledgement. The incorporation of another person's work into yours requires appropriate identifications and acknowledgement. The following are considered to be forms of plagiarism when the source is not noted: word-for-word copying of another person's ideas or words; the "mosaic" (interspersing your own words here and there while, in essence, copying another's work); the paraphrase (the rewriting of another's work, while still using their basic ideas or theories); fabrication (inventing sources); submission of another's work as your own; and neglecting quotation marks when including direct quotes.

NAAB Requirements

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.5 Research and Innovation—How the program prepares students to engage and participate in architectural research to test and evaluate innovations in the field.

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.

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.

SC.5 Design Synthesis—How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating synthesis of user requirements, regulatory requirements, site conditions, and accessible design, and consideration of the measurable environmental impacts of their design decisions.

SC.6 Building Integration—How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating integration of building envelope systems and assemblies, structural systems, environmental control systems, life safety systems, and the measurable outcomes of building performance.

Suggested Readings

- Attmann, O. (2010). *Green Architecture*. New York, NY: McGraw-Hill.
- Barrie, T. (2010). *The Sacred In-Between*: Routledge.
- Barry, R. (2001). *The Construction of Buildings: Multi-storey Buildings, Foundations and Substructures, Structural Steel Frames, Floors and Roofs, Concrete, Concrete Walls and Cladding of Framed Buildings* (5th ed.): Wiley-Blackwell.
- Boake, T. M., & Hui, V. (2012). *Understanding Steel Design: An Architectural Design Manual*: Birkhauser Architecture.
- Coyle, S. J. (2011). *Sustainable and Resilient Communities: A Comprehensive Action Plan for Towns, Cities, and Regions*. Hoboken, NJ: Wiley.
- Farr, D. (2008). *Sustainable Urbanism: Urban Design with Nature*. Hoboken, NJ: Wiley.
- Guthrie, J. (2010). *The Architect's Portable Handbook* (4th ed.). New York, NY: McGraw Hill.
- Keeler, M., & Vaidya, P. (2016). *Fundamentals of Integrated Design for Sustainable Building* (2nd ed.). New York, NY: Wiley.
- Kent, J. (2017). *ADA in Details: Interpreting the 2010 Americans with Disabilities Act Standards for Accessible Design*. Hoboken, NJ: Wiley.
- Kibert, C. J. (2016). *Sustainable Construction: Green Building Design and*

- Delivery* (4th ed.). New York, NY: Wiley.
- Lang, J. (1994). *Urban Design: The American Experience*. New York, NY: Van Nostrand Reinhold.
- Lechner, N. M. (2015). *Heating, Cooling, Lighting: Sustainable Design Methods for Architects* (4th ed.). Hoboken, NJ: Wiley.
- Mehta, M., Scarborough, W., & Armpriest, D. (2012). *Building Construction: Principles, Materials, and Systems* (2nd ed.). New York, NY: Prentice Hall.
- Newman, O. (1972). *Defensible Space: Crime Prevention Through Urban Design*. New York, NY: Macmillan Publishing Company.
- Pena, W., & Parshall, S. A. (2012). *Problem Seeking* (5th ed.). New York, NY: John Wiley & Sons.
- Reeder, L. (2016). *Net Zero Energy Buildings: Case Studies and Lessons Learned*. London, UK: Routledge.
- Rhoads, M. A. (2013). *Applying the ADA: Designing for The 2010 Americans with Disabilities Act Standards for Accessible Design in Multiple Building Types*. Hoboken, NJ: Wiley.
- Salama, A. (1995). *New Trends in Architectural Education*. Raleigh, NC: Tailored Text & Unlimited Potential Publishing.
- Sim, D. (2019). *Soft City: Building Density for Everyday Life*. Washington, DC: Island Press.
- Trebilcock, P., & Lawson, M. (2004). *Architectural Design in Steel*. New York, NY: Spon Press.
- Venhaus, H. (2012). *Designing the Sustainable Site: Integrated Design Strategies for Small Scale Sites and Residential Landscapes*. Hoboken, NJ: Wiley.
- Voss, K., & Musall, E. (2013). *Net zero energy buildings: International projects of carbon neutrality in buildings: DETAIL*.
- Wing, S. (2015). *Designing Sacred Spaces* (1st Edition ed.): Routledge.

TENTATIVE SCHEDULE

(Dates and topics subject to change. Changes will be announced in class)

Week 1	Mon	15-Jan	No Class - MLK
	Thu	18-Jan	Project Introduction Site and Zoning Ordinances Case-study Research (assigned) Digital site model (assigned)
Week 2	Mon	22-Jan	Design Philosophy Architectural Programming Program Development-1 (assigned)
	Thu	25-Jan	Presentation of Case-studies Case-studies DUE Digital site model DUE
Week 3	Mon	29-Jan	Concept Development (assigned) Site Design (assigned)
	Thu	1-Feb	Concept Development Site Design Development Program Development-1 DUE
Week 4	Mon	5-Feb	Concept Development Site Design Development Program Development-2 (assigned)
	Thu	8-Feb	Concept Development Site Design Development
Week 5	Mon	12-Feb	Concept Development Site Design Development
	Thu	15-Feb	Concept Development Site Design DUE
Week 6	Mon	19-Feb	Concept Development
	Thu	22-Feb	Concept Development
Week 7	Mon	26-Feb	Concept Development
	Thu	29-Feb	Concept Development Program Development-2 DUE
Week 8	Mon	4-March	Design Crits
	Thu	7-March	Design Crits Concept Development DUE

Week 9	Mon	11-March	Design Crits
	Thu	14-March	MIDTERM REVIEW
Week 10	M/T	18-21 March	SPRING BREAK
Week 11	Mon	25-March	Design Revisions Building Codes (assigned) ADA (assigned)
	Thu	28-March	System Integration (assigned) Sustainability (assigned)
Week 12	Mon	1-Apr	Review of Design Revisions
	Thu	4-Apr	Review of Design Revisions Building Codes & ADA DUE
Week 13	Mon	8-Apr	Design Development Building Envelope (assigned) Materials (assigned)
	Thu	11-Apr	Design Development Systems & Sustainability Review
Week 14	Mon	15-Apr	Design Development Systems & Sustainability Review Envelope & Materials Review
	Thu	18-Apr	Systems & Sustainability DUE
Week 15	Mon	22-Apr	Board + Model Preparation Envelope & Materials Review
	Thu	25-Apr	Board + Model Preparation Envelope & Materials Review
Week 16	Mon	29-Apr	Final Review Preparation Envelope & Materials DUE
	Thu	2-May	FINAL REVIEW Boards DUE Design Booklet DUE



FOOD ECOLOGIES

ARCH 6170 Design Studio VI: Spring 2024

Studio Title: Food Ecologies

Instructor: Assia Crawford

Type: Required Course

Credits: 6 credits

E-mail: assia.crawford@ucdenver.edu

Prerequisites: ARCH 4111

Office hours: [email for appointment]

COURSE INTENT

“Human use, population, and technology have reached that certain stage where Mother Earth no longer accepts our presence with silence.”

— *The Dalai Lama*

“Progress is measured by the speed at which we destroy the conditions that sustain life.”

— *George Monbiot*

“...we need to remind ourselves that natural systems are much more finely tuned than we think, and if we like the way they currently work, then we should try very, very hard to not screw with them.”

— *Rowan Jacobsen*

There is a false sense of security present within the West when examining the possibility of our contemporary lifestyle being profoundly disrupted. Yet, the fragility of our way of life became grossly exposed during the ongoing viral pandemic where a biological actor disrupted and reshaped our lives globally. Still, we view our current levels of comfort as constant and, in certain cases, as continuously improving, reassured by consumer-capitalist positive feedback loops that drive unsustainable growth (Lewis and Maslin, 2018). It could be argued that we are selectively disregarding the simple fact that as consumption increases, we are moving towards an inescapable point where the planet can no longer sustain our way of life.

One of the major challenges facing the global human population is our food supply which has been commodified by big corporations that in their efforts to optimize, protect and increase production have resorted to highly mechanized, resource depleting and unsustainable practices. Furthermore this commercial model is widely reliant on global distribution where food supply is monopolized by big corporations and 9.9% of the human population suffers from hunger and malnutrition, whilst 2 billion are affected by obesity and many others are affected by nutrition related illnesses (Shiva, 2016). Therefore, there is an

urgency to examine how food is produced, who produces it and who benefits by asking difficult questions we rarely ponder and that we no longer have the luxury to ignoring.

As the global human population reaches unprecedented levels, ensuring a reliable food supply has created numerous challenges and environmental pitfalls that point to a precarious future. Current industrial farming practices have further exacerbated environmental problems through the clearing of biodiverse landscapes for monocrops as well as the large-scale pollution and soil distraction. Such largescale global practices are hinged upon the use of fossil fuels, the reduction of bio-



The Food Parliament. Image © CJ Lim / Studio 8 Architects

diversity in favour of patented seeds and GMO crops that leave global harvests vulnerable to widescale collapse. Industrial farming is often portrayed as the only way to meet the needs of a growing human population, yet 70% of human food supply is produced by small farms. These small-scale operations oftentimes have a much more holistic approach to food production recognizing humanity's dependence on nature and the importance of restoring natural ecosystems. Very often such methods of food production are based around the creation of ecologies that function in a circular fashion, thus decreasing waste and maintaining favourable conditions for the future.

Currently agriculture accounts for the use of 50% of habitable land, 70% of freshwater use and 26% of global CO₂ emissions (Ritchie and Roser, 2021). This has hugely contributed to global biodiversity decline, believed to be on average as much as 65% since 1970s and has placed increasing pressure on the land through over farming, soil erosion, mineral depletion, and pollution both through waste production as well as excessive use of chemical fertilizers and pesticides. These trends point to the urgent need to revise and redevelop food production to prevent global shortages, disruptions to the food supply and above all global environmental devastation that spells out a sixth mass extinction. In this studio will look at strategies to bring food production into city scapes that are often viewed as ecological deserts yet present a plethora of opportunities for animal habitat creation, food production, water collection and energy harvesting.

OBJECTIVES

In this studio, we are going to look at alternative ways of locally meeting human needs within urban settings, bringing food production to the heart of the city and empowering communities with the knowledge of food cultivation, and the means to actively participate in meeting their needs. You will be asked to explore emerging food production practices alongside traditional small scale farming methods and propose a new urban approach to co-creating with nature. You will work groups of 2 to develop a circular system that supplies locally grown food whilst harnessing sustainable principles to deal with energy supply, waste and water issues. In the new urban farming facility, you may choose to explore one of the following: mushroom farming, microgreens and vertical farming, microalgae and urban apiaries, or a combination of a few types of food production. The primary program must be supplemented by a social function that can benefit the neighbourhood and increase street safety.

You are expected to familiarize yourself with both the theoretical thinking surrounding the subject as well as the technical and biological requirements, that will be essential in designing a functional urban farming facility grounded in the reality of building construction and plant / animal science. As many of the technologies are currently in their infancy and often implemented on micro or industrial scales you may need to propose a middle ground and redesign such setups to respond to an urban block in the vibrant RiNo Art District, where arts, activism and community engagement offer an ample setting for your 40 000 -50 000 sqf urban farm, which will feature an educational, research and hospitality programme that brings the community together. Your design should go beyond housing sustainable activities, rather it should embrace sustainability principles that embody a vision of resilience after the age of fossil fuels.

Studio VI project will be developed over the course of 15 weeks through collaborative group work (2 person groups). In this studio you will deliver a design proposal for an urban farming and educational facility that tackles the following aspects of design thinking and development:

- 1 DESIGN OBJECTIVES and ZONING
- 2 SITE DESIGN and OPTIMIZATION
- 3 ARCHITECTURAL PROGRAMMING
- 4 BUILDING TYPES and AESTHETICS / STYLE / FORM
- 5 LIFE SAFETY and ACCESSIBILITY / CODES
- 6 SYSTEMS INTEGRATION and SUSTAINABILITY
- 7 BUILDING ENVELOPE and MATERIALS

The abovementioned design requirements will contain a substantial overlap and may need to be addressed in a nonlinear fashion or in parallel, which is reflective of a real-world design process.

EVALUATION

Students will be evaluated based on their participation and commitment to investigating the required information and integrating it into written and graphic documentation of the Studio VI project. The course is delivered through tutorials, site visits and day trips. Participation in activities will be factored into the final grade. Projects must be documented within a project portfolio book and presented during various stages of development in presentations to peers as well as internal and external critics.

NAAB STUDENT PERFORMANCE CRITERIA

SC.5 Design Synthesis—How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating synthesis of user requirements, regulatory requirements, site conditions, and accessible design, and consideration of the measurable environmental impacts of their design decisions.

SC.6 Building Integration—How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating integration of building envelope systems and assemblies, structural systems, environmental control systems, life safety systems, and the measurable outcomes of building performance.

LEARNING OUTCOMES

- Develop a spatial and formal vocabulary
- Formulate an idea in relation to circumstance
- Understand analysis and design as complementary
- Move between the abstract and the concrete fluidly + repeatedly
- Use drawings, models, and iteration to develop an idea
- Understand and articulate parts to whole relationships
- Understand and articulate inside to outside relationships
- Understand and articulate solid to void relationships
- Understand and articulate path to place relationships
- Understand buildings as ideological constructs
- Design with awareness of cultural presuppositions/biases
- Develop architectural ideas through analysis
- Consider program a cultural recipe for design intent
- Resolve site, program, form, structure, & environment
- Translate ideas into architectural experiences
- Develop a reflective or critical stance toward program**
- Explore how architecture can critique and question culture**
- Position work critically within its historical and cultural context**
- Develop large scale ideas/concepts into architectural details**
- Understand and articulate structure to material relationships**
- Integrate materials, structure, systems, building code, and life safety**

REQUIRED READING

Kimmerer, R. W. (2015) *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants*. Minneapolis: Milkweed Editions.

Crawford, A. (2023) *Designer's Guide to Lab Practice*. London: Routledge.

STRONGLY RECOMMENDED READING

Steel, C. (2020) *Sitopia: how food can save the world*. Vintage.

Bernstein, S. (2011) *Aquaponic gardening: A step-by-step guide to raising vegetables and fish together*. Gabriola Island: New Society Publishers.

Bierend, D. (2021) *In search of Mycotopia: Citizen Science, Fungi Fanatics, and the Untapped Potential of Mushrooms*. London: Chelsea Green Publishing.

Lewis, S. and Maslin, M. A. (2018) *The human planet: How We Created the Anthropocene*. St Ives: Pelican.

Mumford, L. (1970) *The myth of the machine*. New York: Harcourt Brace Jovanovich.

Shepard, M. (2014) *Restoration agriculture: Real-world permaculture for farmers*. Austin: Acres U.S.A.

Shiva, V. (2016) *Really who feeds the world?* Berkeley: North Atlantic Books.

COURSE STRUCTURE

The course will be taught in person through tutorials, class day trips and guest lectures. Tutorials will take place on Mondays and Thursdays 1pm-6pm.

In the event of unforeseen circumstances (e.g. extreme weather, COVID restrictions etc.) tutorials will take place online via Zoom:

Meeting ID:

Passcode:

COURSE CATALOG DESCRIPTION

Second in the sequence of two analytical design studio courses, this course advances students' understanding of the relationship between architecture and culture and their ability to design intermediate scale buildings as effective settings for cultural rituals. Students explore the role of history and precedent in the design process along with the role of detail in architectural compositions. Prereq: ARCH 4111. Restriction: Restricted to undergraduate ARCH students within the College of Architecture and Planning. Max hours: 6 credits.

TEACHING REQUIREMENTS

An active working environment integrated with technical and theoretical rigor is a crucial aspect of the design experience, therefore, it is required that students are productive and follow the course requirements as directed.

Each student must submit the required assignments in the required format, properly labelled and by the time and date stipulated. Students are encouraged to have their own laptops and have a working knowledge of Photoshop, InDesign and AutoCad or Revit, 3D Studio Max. Other applications may also be necessary.

ALL WORK MUST BE SAVED FREQUENTLY ONTO YOUR OWN EXTERNAL THUMB DRIVE or HARD DRIVE.
NO EXCUSES FOR LOST OR CORRUPTED WORK WILL BE ACCEPTED.

BASIS FOR FINAL GRADE

All grades received prior to the final review are provisional and are reflective of work presented up until the stage of the project being reviewed. Provisional grades are not indicative of final grades and do not provide a minimum grade for the project, therefore final grades can be substantially impacted by work taking place following interim assessments.

Assessment	Points Possible	Percent of Final Grade
Declaration Review	80	0%
Assignment 1	5	5%
Assignment 2	10	10%
Interim Review	80	0%
Final Review	80	80%
Portfolio	5	5%

Grading Scale - grades will be given in points

95-100 A 90-93 A- 87-89 B+ 84-86 B 80-83 B- 77-79 C+ 74-76 C 70-73 C- 67-69 D+ 64-66 D 60-63 D- 0 - 59 F

GRADE DISSEMINATION

Graded in this course will be returned via the course's Canvas course shell. You can access your scores at any time within the Canvas gradebook.

GROUP WORK POLICY

Everyone must take part in the group project. All members of a group will receive the same score; that is, the project is assessed and everyone receives this score. However, that number is only 90% of your grade for this project. The final 10% is individual and refers to your teamwork. Every person in the group will provide the instructor with a suggested grade for every other member of the group, and the instructor will assign a grade that is informed by those suggestions. The grading criteria are the same as the group project. Once formed, groups cannot be altered or switched, except for reasons of extended hospitalization.

POLICIES, RULES, and REGULATIONS

Campus Coronavirus Safe Return Policy

Please visit - <https://www.ucdenver.edu/coronavirus>

TECHNOLOGY AND MEDIA

Email: official university communication is only sent via a student's university email address. You may contact your tutor (Assia Crawford) via university email and can expect a response within 7 working days.

Canvas: Canvas will be the primary mode of communication throughout the course. Please enable notifications so that any announcements may be forwarded to your email.

Classroom Devices: Please note, recordings of any kind, during tutorials of instructors or other attendees should not occur without everyone's explicit consent.

STUDENTS WITH DISABILITIES

Students with disabilities who want academic accommodations must register with Disability Resources and Services (DRS), North Classroom 2514, 303-556-3450, TTY 303-556-4766, FAX 303-556-4771. DRS requires students to provide current and adequate documentation of their disabilities. Once a student has registered with DRS, DRS will review the documentation and assess the student's request for academic accommodations in light of the documentation. DRS will then provide the student with a letter indicating which academic accommodations have been approved. Once you provide me with a copy of DRS's letter, I will be happy to provide those accommodations DRS has approved.

ABSENCES, TARDINESS, EXAMINATIONS

Except for documented health or disability reasons, I will not accept excuses for absences, tardiness, missed assessments, or homework not submitted. Documentation of disability or health related issues must be provided to Disability Resources and Services (see below). UC Denver Student Attendance and Absences Policy - http://www.ucdenver.edu/faculty_staff/employees/policies/Policies%20Library/OAA/StudentAttendance.pdf

Classes begin and end on time. (1) absence will be allowed before an academic penalty of (one half) (one) grade reduction is imposed. If you are late to class and/or leave class early (2) times, an academic penalty of (one half) (one) grade reduction will be imposed. Homework, papers, projects, or any other required assignments that are turned in late will receive 1/2 LETTER GRADE REDUCTION for every day they are late. Any student who does not participate in pin-ups/reviews, misses quizzes and/or examinations or fails to turn in homework and/or papers will receive either a zero (0) or an F for the work missed. The instructor must be informed in writing if you are going to be late/ absent, along with the anticipated duration and reason for tardiness.

INCOMPLETE GRADES

The current university policy concerning Incomplete Grades will be followed in this course. Incomplete grades are given only in situations where unexpected emergencies prevent a student from completing the course and the remaining work can be completed the next semester. Your instructor is the final authority on whether you qualify for an incomplete. Incomplete work must be finished by the end of the subsequent semester or the "I" will automatically be recorded as an "F" on your transcript.

PLAGIARISM

Students are expected to know, understand, and comply with the ethical standards of the university, including rules against plagiarism. Plagiarism is the use of another person's ideas or words without acknowledgment. The incorporation of another person's work into yours requires appropriate identifications and acknowledgment. The following are considered to be forms of plagiarism when the source is not noted: word-for-word copying of another person's ideas or words; the "mosaic" (interspersing your own words here and there while, in essence, copying another's work); the paraphrase (the rewriting of another's work, while still using their basic ideas or theories); fabrication (inventing sources); submission of another's work as your own; and neglecting quotation marks when including direct quotes.

CLASSROOM DECORUM

The following ground rules are designed to ensure a classroom environment conducive to learning for all students:

1. You must treat your peers, your instructor and guests with respect

2. Please do not bring children to class.
3. Students who engage in disruptive classroom behaviour will be reported to the Office of Student Life for appropriate disciplinary action under the UCDenver Code of Student Conduct and, when appropriate, to the Auraria Campus Police for investigation of possible criminal action. The Code of Student Conduct can be found on the UCDenver website, under Office of Student Life and Student Activities. Disruptive behavior includes, but is not limited to, arriving late to class without explanation or apology; leaving class early without explanation or apology; reading a newspaper or magazine; reading a book with no connection to the content of the course; engaging in prolonged private conversations; sleeping in class; eating, drinking, and/or gum chewing; passing notes; being under the influence of drugs or alcohol; harassment or verbal or physical threats to another student or to the instructor; failing to deactivate pagers, beepers, cellular phones, and/or handheld internet devices; bringing children to class.
4. Written course related communication with the instructor is only permitted over email or Canvas.
5. Students have a responsibility to treat each other, their instructor, TAs, and guests with respect in written and verbal form. Any disrespectful or disruptive behaviour will be grounds for exclusion from class. In the event that such behaviour takes place, students may be asked to leave class immediately.
6. Communication with the instructor should only happen via university email or Canvas and no other media.

DIVERSITY POLICY

It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit.

HEALTH AND WELLNESS

As a student, you may experience a range of challenges that can interfere with learning, such as strained relationships, traumas, increased anxiety, substance use, feeling down, difficulty concentrating, and/or lack of motivation. These mental health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. If you or someone you know is struggling, you can find supportive campus and community resources at the Health Center at Auraria or the CU Denver Counseling Center. On weekends, holidays or after-hours you can contact the 24/7 Mental Health Crisis and Victim Assistance Line at 303-615-9999 or text Talk to 38255. The University of Colorado Denver is committed the health and well-being of all students. We recognize that diminished mental health, including significant stress, mood changes, excessive worry, or problems with eating and/or sleeping can interfere with optimal academic performance. The source of such symptoms can be quite varied, and include experiences of trauma (such as sexual and relationship violence, stalking, discrimination, crimes, and accidents), responses to course work, family worries, loss, personal struggle, or crisis. If you or someone you know is struggling, you can find supportive campus and community resources at <https://www.ucdenver.edu/counseling-center> or by calling the CU Denver Counseling Center (303-315-7270) or the Health Center at Auraria (303-615-9999) On weekends, holidays or after-hours you can contact the 24/7 Mental Health Crisis and Victim Assistance Line at 303-615-9999 or text Talk to 38255.

Intellectual Property Copyright belongs to individuals delivering the course materials including Assia Crawford and/ or guest speakers. Students are prohibited from selling, or being paid by any person or commercial firm for taking, notes or recording class lectures without the advance express written permission of the faculty member teaching this course. Exceptions are permitted for students with a disability who are approved in advance by Disability Resources and Services for note taking or tape recording as an academic accommodation.

IMPORTANT DATES

Declaration Review 22nd February

Interim Review 4th April

There will be no class during Spring Break.

Final Reviews 5th May

Copy of UCDenver's Academic Calendar can be found via the link:

<https://www.ucdenver.edu/student/student-calendars/academic/spring>

Changes to due dates or other important and timely information will be announced through Canvas.

BIBLIOGRAPHY

Lewis, S. and Maslin, M. A. (2018) *The Human Planet: How We Created the Anthropocene*. St Ives: Pelican.

Ritchie, H. and Roser, M. (2021) *Environmental Impacts of Food Production, Our World in Data*. Available at:
<https://ourworldindata.org/environmental-impacts-of-food> (Accessed: 1 January 2022).

Shiva, V. (2016) *Really who feeds the world?* Berkeley: North Atlantic Books.

Studio VI: Food Ecologies – Studio Plan			
WEEK	DATE	WORK	CLASS ACTIVITY
1	18/1	Course Introduction Site Visit and Vertical Farms Visit	Introduction + Site visit
2	22/01 25/01	Precedent study research Precedent Study – Begin work on 1:24” key section model Research program and associated cultivation methods and spaces	Reading due: Braiding Sweetgrass: Chapter 1: Planting Sweetgrass Desk critic
3	29/01 1/02	Site Analysis – wider context Begin work on 1/32” Site Model Program and methods research	Reading due: Braiding Sweetgrass: Chapter 2: Tending Sweetgrass Desk critic
3	5/02 8/02	Site Analysis – local condition Precedent Study –1:4” key section model due Map-out program and Diagram spatial and program requirements associated with cultivation methods and spaces. Concept Development Spatial Strategy + Site response Precedent research	Reading due: Braiding Sweetgrass: Chapter 3: Picking Sweetgrass Desk critique
4	12/02 15/02	Map-out program and Diagram spatial and program requirements associated with cultivation methods and spaces. Research secondary program requirements Finish 1/32” Site Model Manifesto (Written Statement 500 words + Conceptual Drawing)	Reading due: Braiding Sweetgrass: Chapter 4: Braiding Sweetgrass Independent Development
5	19/02	Work session- final check with the instructor prior to Declaration Review- bring all work.	Reading due: Braiding Sweetgrass: Chapter 5: Burning Sweetgrass Desk critique
5	22/02	Declaration Review (Draft Portfolio + PowerPoint to be submitted on Canvas by 1 pm) 10 min presentation on screen + 10min feedback	Precedent study + precedent model Program research and development Group site model Site Analysis and Site Response

6	26/02 29/02	Finalized Concept Development and Site response. Detailed Design Options Start work on group site model 1/8" scale	Reading due: Desk critique
7	4/03 7/03	Design Development - Structural Development Grid Design Spatial Mapping Developed Design - draft plans, sections	Reading due: Desk critique
8	11/3 14/3	Developed Design - draft plans, sections, elevations Draft- Fire strategy, lighting strategy and ingress	Reading due: Desk critique
9	18/3 21/3	Spring Break	
10	25/3 28/3	Technical Detail Development – draft sketches Finish group site model 1/8" Materials and Construction Sequencing Interior Design development – perspectives	Reading due: Desk critique
11	1/4	Materials and Construction Sequencing Interior Design development – perspectives	Desk critique
11	4/4	Interim Review (PowerPoint, Draft Portfolio + PowerPoint to be submitted on Canvas by 1 pm) 10 min presentation on screen + 10min feedback	Massing Site response Draft Plans, Sections, Elevations Materials Study Interior Design Group Site Model 1/8" Scale
12	8/4 11/4	Start 1/8" Scale Building Model Key Atmospheric Technical Detail section – 1/2" Scale	Desk critique
13	15/4 18/4	Final Orthographic Drawings – Plans, sections Elevations Interior and Exterior Renders	Desk critique
14	22/4 25/4	Finish 1/8" Scale Model Continue development	Desk critique
15	29/5	Work Session – finishing final deliverables.	Desk critique
15	2/5	Final Review (PowerPoint, Final Portfolio + PowerPoint to be submitted on Canvas by 1 pm) 10 min presentation on screen + 10min feedback	Full Project Presentation
16	6/5	Debriefing	

Dates, times and activities are subject to change.

Program Brief

You have to select and research one of the following primary programs. Map out all needs of the program based on search and understanding of all aspects of the activity involved:

1. Mushroom Farm
2. Algae Farm
3. Vertical Farm
4. Permaculture Farm

You may choose to pair the above with an Apiary.

You have to include secondary evening and daytime functions so as to promote a safe and dynamic urban environment. This is a list of suggested day functions although these can be substituted with functions of your choice:

Day Functions

- Bakery
- Climbing center
- Cooking School
- Market

In addition, you may wish to include a street-facing function as well such as a café/ shop

Evening Functions

- Restaurant
- Night Club
- Bar
- Performance Venue

Your building is likely to have great demands for deliveries, storage, and services, back-of-house functions, and support space. Ensure those are designed and researched appropriately. However, do not dedicate space for visitor onsite parking.

Note! All spaces and all parts of the processes involved must be researched, be specific and sized accurately based on precedent examples.

Site Analysis:

Each one of the below must be researched illustrated with appropriate photographs and explained through **your own drawings, collages and diagrams**:

1. **Location:** Understand the geographical location of the site. This includes the city, neighborhood, and street.
2. **Climate:** Research the local climate, including temperature ranges, rainfall, humidity, and seasonal changes.
3. **Topography:** Study the physical features of the site, such as slopes, contours, and natural drainage patterns.
4. **Vegetation:** Identify the types of trees, plants, and other vegetation on the site.
5. **Sun Path:** Understand the sun path across the site to optimize natural light and heat.
6. **Wind Direction:** Study the prevailing wind direction and speed.
7. **Views:** Identify key views from the site, both natural and man-made.
8. **Noise Levels:** Assess the noise levels from traffic, neighbors, or other sources.
9. **Soil Type:** Understand the soil type and its bearing capacity.
10. **Legal Constraints:** Research any zoning laws, building codes, or other legal constraints.
11. **Cultural and Historical Context:** Understand any cultural or historical aspects of the site that could influence the design.
12. **Infrastructure:** Identify existing infrastructure, such as roads, utilities, and public transportation.
13. **Surrounding Buildings:** Study the architectural style, scale, and materials of surrounding buildings.
14. **Accessibility:** Assess the site's accessibility for construction and for the intended users of the project.
15. **Safety:** Consider any safety issues, such as crime rates or natural disaster risks.
16. **Sustainability:** Identify opportunities for sustainable design, such as potential for solar panels, rainwater harvesting, etc.

Program Research

Each one of the below must be researched illustrated with appropriate photographs and explained through **your own drawings, collages and diagrams**:

1. **Building Type:** Determine the building functions.
2. **User Requirements:** Understand the needs and preferences of the end users. This could include space requirements, accessibility needs, and desired amenities.
3. **Space Allocation:** Decide how much space to allocate to different functions (living areas, workspaces, circulation, etc.). Produce a graphic brief.
4. **Relationships Between Spaces:** Determine how different spaces relate to each other. For example, in a home, the kitchen might need to be close to the dining area. Produce relationship diagrams.
5. **Flexibility:** Consider how the building might need to adapt to changing needs over time.
6. **Building Codes and Regulations:** Research the relevant building codes and regulations. These could affect many aspects of your design, from fire safety to accessibility. Demonstrate understanding by pulling out the relevant legislation and diagram using your own drawings.
7. **Sustainability Goals:** Establish what sustainability goals you want to achieve, such as energy efficiency or the use of sustainable materials.
8. **Technology Integration:** Consider how to integrate technology into the building, such as smart home systems or energy management systems.

Reading Assignment: Interlacing Indigenous Wisdom and Architectural Design through “Braiding Sweetgrass”



Figure 1: *Orchestrated City, The Royal Danish Academy of Fine Arts: MA Architecture Thesis. kindergarten/observatory: a daily transform.*

“Braiding Sweetgrass” is a seminal work by Robin Wall Kimmerer, a distinguished botanist and a member of the Citizen Potawatomi Nation, that elucidates the intricate relationship between humans and the natural world, drawing upon Indigenous wisdom and scientific knowledge (Kimmerer, 2013). Kimmerer employs the metaphor of braiding sweetgrass to interweave diverse strands of understanding and reverence for the living earth.

In this scholarly exercise, you are required to engage with the book and generate architectural composition drawings for each chapter that encapsulate the central ideas and themes. Additionally, you will compose a 300-word critical analysis for each chapter, delineating the key insights and their connection to social and spatial issues, and their relevance to your architectural design project.

Architectural composition (collage) refers to the methodical arrangement and presentation of architectural elements such as form, color, texture, and space, in a coherent and aesthetically pleasing manner. It is predicated on principles such as proportion, scale, repetition, rhythm, and hierarchy. You may employ freehand sketching, digital tools, or a combination of both to create your drawings (Ching, 2007).

For each chapter, consider the following inquiries:

1. What is the primary message or lesson that Kimmerer conveys in the chapter?
2. How does Kimmerer utilize narratives, examples, and metaphors to illustrate her point?
3. What are the connections between the chapter and the broader themes of the book, such as reciprocity, gratitude, responsibility, and restoration?
4. How does the chapter relate to the ecological, social, and cultural context of your site and broader neighborhood?
5. How does the chapter inspire or challenge you to reconsider your relationship with the natural world and your role as an architect?
6. How can you translate the chapter into a visual language that expresses your comprehension and interpretation of the text?
7. How can you apply architectural composition principles to create a drawing that communicates the essence of the chapter?
8. How can you incorporate elements of your concept for your design project into your drawing and relate them to the themes in the book?

The exercise has a focus on representation, and as such, you are expected to research the style of representation you choose to employ and utilize it consistently throughout the series. The quality of the imagery and the level of craft will form part of the grade for this exercise.

You are expected to submit your drawings and statements for each chapter at the Declaration Review on 22nd February. You will also present and discuss your work with your peers and instructor in a final session. This exercise aims to foster your critical thinking, creative expression, and communication skills, as well as to deepen your awareness and appreciation of the natural world and its influence on architecture.

REFERENCES

Ching, F. D. K. (2007). *Architecture: Form, Space, & Order*. John Wiley & Sons.

Kimmerer, R. W. (2013). *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants*. Milkweed Editions.

Assignment 1 Assessment Criteria	
Criteria	Percentage Allocation
<p><i>Critical Thinking</i> Does the output demonstrate a level of critical thinking and reflection evident in drawing and text form?</p>	30%
<p><i>Relating Concepts</i> Is it evident that there is a clear and strong connection between the reflections (written and visual format) and the concepts explored for the design project?</p>	30%
<p><i>Representation</i> Are the compositions meaningful and well executed with attention to visual style and craft? Is the series of 5 images and text presented in a visually coherent and aesthetically considered manner?</p>	40%

Precedent Assignment: Detailed Precedent Study in Drawing and Model



Figure 2: Sectional models

The objective of this assignment is to deepen your understanding of architectural design principles and construction techniques through an in-depth precedent study and physical technical modeling. Students are required to select one building from a provided list of 9 precedents and conduct a comprehensive study, focusing on its architectural design, construction techniques, and the context in which it was built. This study should include a critical analysis of the building's design and its impact on architecture.

In addition to the study, students are also tasked with producing a sectional technical model of a key part of their chosen building, from foundations to eaves, at a 1/4" scale. This model should accurately represent the building's structural details. Alongside the model, students should provide diagrams and drawings that offer insights into the building's design and construction, spatial planning, materials, and construction sequencing, accompanied by desktop research and analysis of the precedent.

The completed assignment is due at the Declaration Review. The work will be assessed on precision, craft, critical understanding, and application. Precision refers to the accuracy of the technical model and the detail in the diagrams and drawings. Craft pertains to the quality of the model, diagrams, and drawings, demonstrating the student's skill and care in their creation. Critical understanding is the student's ability to critically analyze the precedent and articulate its influence on their design proposal. Application is how effectively the student can apply their understanding of the precedent to their own design work. The goal of this assignment is not just to replicate, but to understand and learn from the precedent. The critical analysis and the insights gained from this exercise are just as important as the technical accuracy of the model.

LIST OF PRECEDENTS (each group to choose a different precedent)

Ford Foundation Headquarters New York, New York, USA

Kevin Roche John Dinkeloo and Associates 1968

Phillips Exeter Academy Library Exeter, New Hampshire, USA

Louis I. Kahn 1972

Sendai Mediatheque Sendai, Japan

Toyo Ito & Associates 2000

Beinecke Rare Book and Manuscript Library New Haven, Connecticut, USA

Gordon Bunshaft of Skidmore, Owings & Merrill 1963

Mont-Cenis Training Center Herne-Sodingen, Germany

Jourda Architectes 1999

Yale Art and Architecture Building New Haven, Connecticut, USA

Paul Rudolph 1963

Knowlton Hall Columbus, Ohio, USA

Mack Scogin Merrill Elam Architects 2004

Iberê Camargo Foundation Museum Porto Alegre, Brazil

Álvaro Siza 2008

Melbourne School of Design Melbourne, Australia

NADAAA / John Wardle Architects 2014

Deliverables

- Sectional Model at ¼" showing an extensive part of the building, illustrating a key aspect of the design.
- Structural Diagrams (min x2)
- Environmental Diagrams (min x3)
- Context Diagrams (min x5)
- Desktop Research- comprehensive factual investigation, including materials, spatial arrangement, program, circulation strategies etc.

The above is indicative of minimum requirements and does not provide an exhaustive list of possible research outputs. Research to be recorded in the portfolio and presented digitally via a PowerPoint presentation and physical model.

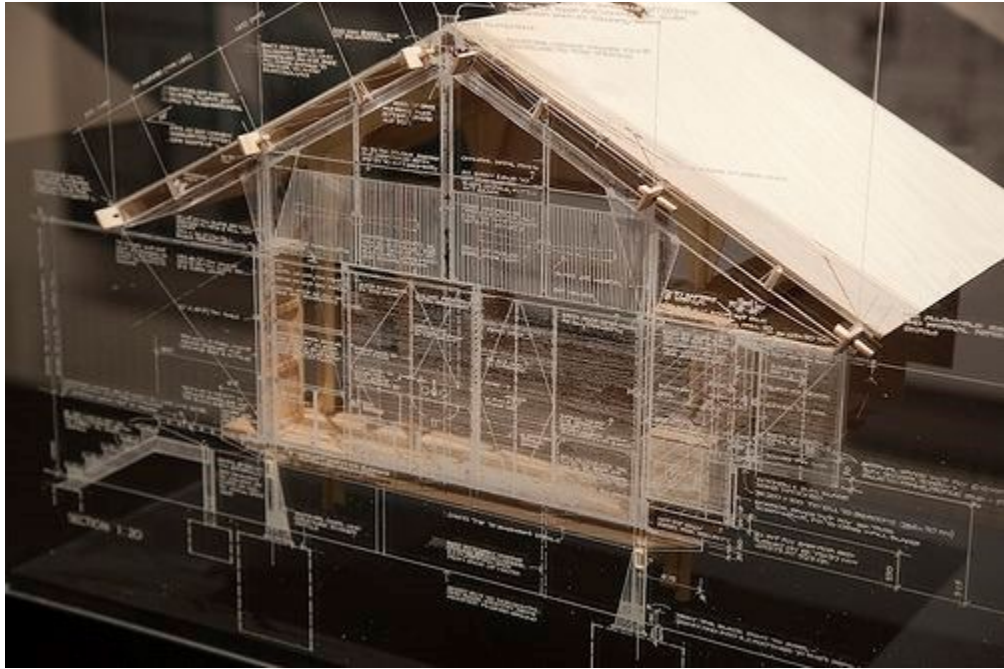


Figure 3: Sectional Model

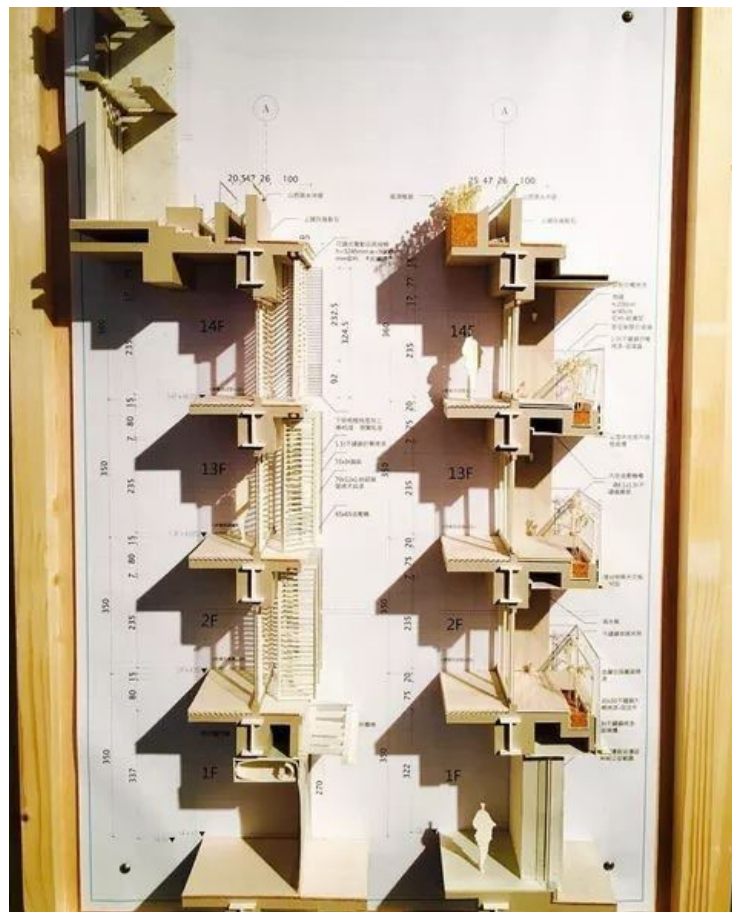


Figure 3: Sectional models

Assignment 2 Assessment Criteria	
Criteria	Percentage Allocation
<p>Research</p> <p>A comprehensive survey may include, among others, the following: architectural drawings, context, history, materials, design intent, concept, data, metrics, etc.</p>	20%
<p>Critical Analysis</p> <p>Evidence that there is an in-depth understanding of the precedent through diagrams, drawings, concept diagrams, etc., that go beyond available data.</p>	30%
<p>Model</p> <p>Well-crafted sectional model at 1/4" scale that represents structure accurately along with all layers</p>	50%

Course Syllabus

STUDIO VI GRADUATE ARCHITECTURE SPRING 2024

STEPHEN DYNIA FAIA

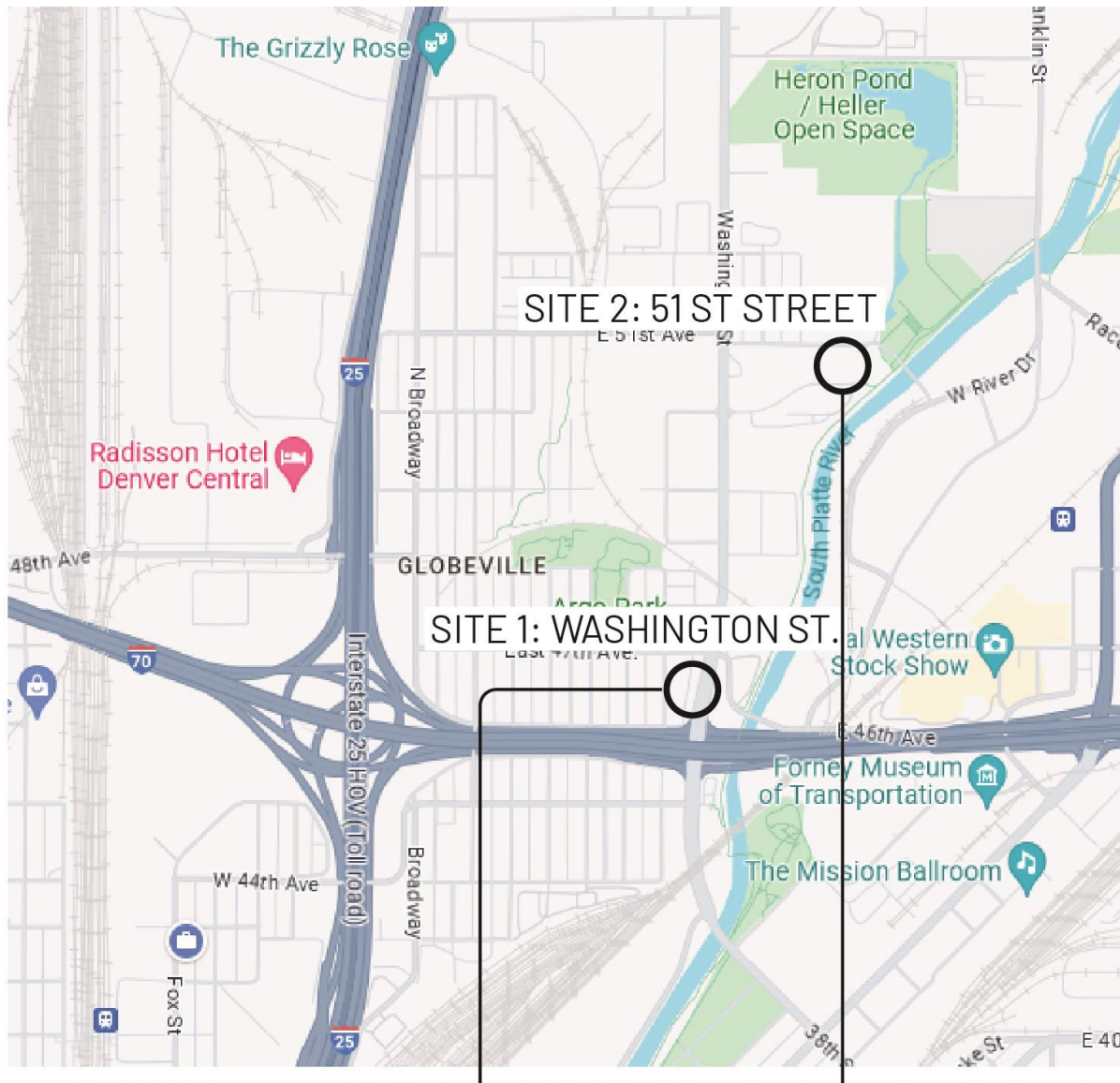
DYNIA ARCHITECTS, dynia.com

COURSE DESCRIPTION:

'Globeville', populated in the 19th and 20th century by slaughterhouses, smelting facilities and worker housing, is a potent local example of the effect of transportation corridors slicing through a neighborhood and rearranging the social and physical patterns of a community. As in countless neighborhoods in cities across the country, the result was the severing of connective tissue within communities that isolated parts of neighborhoods. Freight rail lines were early interventions, but the greatest negative impact came from the post-war national highway program, which was meant to connect the country. Unfortunately, the unintended consequences were disjointed communities. This studio project will analyze and address the current condition of 'Globeville' to attempt through architecture to repair and strengthen the community fabric and identity.

SITE:

The city has a plan to develop North Washington as a mixed-use hub for Globeville that includes new infrastructure, streetscape improvements etc. Our studio project offers two sites: one is a linear gateway site on North Washington Street at the foot of the I-70 exit ramp; the other is on 51st Street east of North Washington near the new bridge over the Platte River that connects to the western stock show campus. You will choose or be assigned one of the two sites.



The program is a research 'foundation' for the study of urban issues in general and the social and cultural needs of this unique neighborhood. Each pair of students will identify a mission for your 'foundation'. Examples include: urban food cultivation; transportation innovation; social inequities; cultural programs to amplify and nourish the community etc. Mission originality and depth of research will be especially noted.

This 'foundation' will house a diverse group of candidates for a semester in a work/live program. The participants will share their critical thinking with each other in a communal environment and interact with the community through public sessions with officials, academics, planners and residents to promote the mission of your 'foundation'.

Program components include communal housing; laboratory/workspace; classrooms; public assembly/dissemination space; administrative; cafeteria and lobby etc., for a total interior space of approximately 15,000 sf.

OBJECTIVES:

As the final studio in this graduate program, the projects will be comprehensive. You will be required to understand rudimentary regulatory requirements and limitations, and present designs that include detailed and specific structural systems. Each team is encouraged to pursue alternative environmentally sustainable construction methodologies.

Thorough research of the site, physically and culturally, and of the nature of an academic 'foundation' will initiate the project. Through the semester, each team will develop a building or buildings that express the aspirations of architecture to inspire the community and culture of Globeville.

NAAB PERFORMANCE 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.5 Research and Innovation

How the program prepares students to engage and participate in architectural research to test and evaluate innovations in the field.

SC.6 Building Integration

How the program ensures that students develop the ability to make design decisions within

architectural projects while demonstrating integration of building envelope systems and assemblies,

structural systems, environmental control systems, life safety systems, and the measurable

outcomes of building performance.

Though there are other learning objectives (see next section) it will not be possible to pass this

studio if the above Student Criteria are not met. Likewise, fulfilling the above criteria does not

guarantee a passing grade but rather serves as a prerequisite for a passing grade which is determined by the totality of the learning outcomes.

In addition to the NAAB criteria and individual learning objectives described in each assignment the

pedagogical intent of these design exercises is twofold. The first goal is to foster and further develop

the type of analytical skills essential to deciphering the complex relationships between architecture

and the culture industry it perpetually serves, i.e., the skills essential to the formation and evaluation of design ideas and programs. It is also the goal of these exercises to promote a

conscious re-evaluation of all the subconscious assumptions regarding spatial organization, the

relationship of parts to whole, the inside to the outside, the particulars of volume and mass, solid

and void, path and place, structure and material, ornamentation, proportion, scale, and others.

PROJECT SEQUENCE

The studio will consist of three primary segments: research and conceptual development, prototype

development, and prototype deployment and presentation. In the first phase the students will

research the theoretical framework, typology, program and construction system of the project. As a

result of this research the students will produce a project statement that outlines the framework

through which they are approaching the project and the criteria by which they will make decisions

and judge their final results. In the second phase the students will develop a prototypical system

through exhaustive ideation and iteration. In the third phase, the students will deploy and

document their prototype. Students will develop and refine their design proposal and develop an

effective presentation of their design. Through the semester and throughout the phases the

students will be engaging in lectures, plant tours and site visits sponsored by our industry partners

as part of the Mountain States PCI Studio.

GRADING

Students will receive a progress report (not a grade) following the midterm review and a final grade

at the end of the semester. The final grade will take into consideration all assignments during the

project. Incomplete work will receive a grade deduction depending on the level of incompleteness.

Unexcused late work will not be graded. Team projects will be carefully assessed for each student's

participation and each student will be evaluated individually and as such will receive a grade based

upon their demonstrated work. The grading scale is as follows:

A 100 – 95

A- 94 – 90

B+ 89 – 87

B 86 – 84

B- 83 – 80

C+ 79 – 77

C 76 – 74

C- 73 – 70

D+ 69 – 67

D 66 – 64

D- 63 – 60

F 59 – below

All students enrolled as majors in the architecture programs are expected to maintain at least a B

average in all work attempted while enrolled in the College of Architecture and Planning. The

minimum-passing grade recognized by the faculty of the architecture program for classes in the

program curricula is a B-. The faculty will, however, allow a student who has received a C+ in a

required design studio to register for the subsequent studio in the sequence. The student must earn

a minimum grade of B in that studio in order not to have to repeat the studio in which the C+ was

received. As the final studio, a student would be required to retake the same studio the following

year to complete their degree.

If, for any reason, you receive a grade, which you feel is unfair, you have several avenues open to

you. First, see your studio instructor and ask for an explanation. He or she will try to explain the

reasoning behind the grade. If you are not satisfied with the explanation, you are entitled to pursue

the "GRADE APPEAL PROCESS" as outlined at:

<http://www.ucdenver.edu/academics/colleges/ArchitecturePlanning/discover/Documents/PolicyStudent%20Grade%20Appeals%206-26-07.pdf>Links to an external site..

Though not a formal part of the process, you or your instructor may seek assistance with the

University Ombuds Office for "informal, impartial, and confidential dispute resolution services." You

can contact them via their website at:

<http://www.ucdenver.edu/about/departments/OmbudsOffice/Pages/OmbudsOffice.aspx>Links to an external site. to an external site..

PROJECT VALUES

Students' grades will comprise of four areas and will constitute the following percentage of the final

grade:

Research 20%

Prototype Development 30%

Prototype Deployment 40%

Presentations 10%

The Research portion of the grade will be based upon the following percentages:

Depth of Inquiry 60%

Quality of Analysis 40%

Both the Prototype Development and Deployment portion of the grade will be based on the

following percentages:

Depth of Inquiry 40%

Quality of Concept 30%

Quality of Execution 30%

The Presentations portion of the grade will be based on the following percentages:

Completeness 25%

Coherence 25%

Conciseness 25%

Use of Materials 25%

It is my intent that students from all diverse backgrounds and perspectives be well served by this course,

that students' learning needs be addressed both in and out of class, and that the diversity that students

bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and

activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status,

ethnicity, race, and culture, etc. I would like to create a learning environment that supports a diversity of

thoughts, perspectives and experiences, and honors your identities (including race, gender, class,

sexuality, religion, ability, etc.) To help accomplish this:

- If you have a name and/or set of pronouns that differ from those that appear in your official

records, please let me know!

- If you feel like your performance in the class is being impacted by your experiences outside of

class, please don't hesitate to come and talk with me. I want to be a resource for you.

Remember that you can also submit anonymous feedback (which will lead to me making a

general announcement to the class, if necessary to address your concerns). If you prefer to

speak with someone outside of the course, the Office of Diversity, Equity & Inclusion, is an

excellent resource.

- I (like many people) am still in the process of learning about diverse perspectives and identities.

If something was said in class (by anyone) that made you feel uncomfortable, including by me,

please talk to me about it. (Again, anonymous feedback is always an option). Your suggestions

are encouraged and appreciated. Please let me know ways to improve the effectiveness of the

course for you personally or for other students or student groups. In addition, if any of our class

meetings conflict with your religious or other cultural events, please let me know so that we can

make arrangements for you.

HEALTH AND WELLNESS

As a student, you may experience a range of challenges that can interfere with learning, such as

strained relationships, traumas, increased anxiety, substance use, feeling down, difficulty concentrating, and/or lack of motivation. These mental health concerns or stressful events may

diminish your academic performance and/or reduce your ability to participate in daily activities. If

you or someone you know is struggling, you can find supportive campus and community resources

at the Health Center at Auraria or the CU Denver Counseling Center. On weekends, holidays or after

hours you can contact the 24/7 Mental Health Crisis and Victim Assistance Line at 303-615-9999 or

text Talk to 38255.

The University of Colorado Denver is committed the health and well-being of all students. We

recognize that diminished mental health, including significant stress, mood changes, excessive

worry, or problems with eating and/or sleeping can interfere with optimal academic performance.

The source of such symptoms can be quite varied, and include experiences of trauma (such as sexual

and relationship violence, stalking, discrimination, crimes, and accidents), responses to course work,

family worries, loss, personal struggle, or crisis. If you or someone you know is struggling, you can

find supportive campus and community resources at the CU Denver Counseling Center or by calling

the (303-315-7270) or the Health Center at Auraria (303-615-9999) On weekends, holidays or after

hours you can contact the 24/7 Mental Health Crisis and Victim Assistance Line at 303-615-9999 or

text Talk to 38255.

STUDIO POLICIES

Studio Safety: Due to the COVID-19 pandemic all students must follow the University of Colorado

Denver safety guidelines at all times. Students must wear a mask when in the building. If you have

any questions concerning safely returning to campus please refer to the campus safe return website.

Studio Activities: In-class activities will include studio critic presentations and demonstrations,

reading discussions, review of sketchbook work, field trips, work sessions, individual design

critiques, group pin-up critiques and discussions, and formal presentations and reviews.

Attendance: Studio sessions are scheduled on Mondays and Thursdays from 1:00pm - 6:00pm. This

studio will be held in person. Students are required to attend every studio session throughout the

semester unless they are symptomatic or are required to quarantine due to COVID-19. Three

unexcused absences will result in a grade reduction. As the studio environment proves to be highly

beneficial in the exchange of ideas with fellow classmates, students are strongly advised to work in

the studio.

Absences, Tardiness, Projects, and Assignments: Except for documented health or disability

reasons, excuses will not be accepted for absences, tardiness or assignments not submitted.

Documentation of disability or health related issues must be provided to Disability Resources and

Services, disabilityresources@ucdenver.edu, 303-556-3450, FAX 303-556-2074.

Classes begin and end on time: If you are late to class and/or leave class early three times, an

academic penalty of one grade reduction will be imposed. Homework, papers, projects, or other

required assignments that are turned in late will receive one grade reduction for every day they are

late. Any student who fails to turn in homework and projects will receive either a zero or an F for the

work missed.

Progress and Completion: Students must demonstrate daily/weekly progress and must complete

the work by the project deadline date. Incomplete work will result in a reduction of grades

depending on the severity of the incompleteness.

Office Hours: Office hours will be held both in-person or via Zoom. The Zoom link for office hours

can be found in the Zoom tab in Canvas.

Campus Closure: If campus is closed due to inclement weather and given the variable nature of

studio, students will have the option to meet with the instructor remotely using the class Zoom link

found in the Canvas course.

Email: It is a campus requirement that instructors only communicate with students via their official

CU Denver email address or Canvas. All students have been assigned official email addresses in the

format of: firstname.lastname@ucdenver.edu. If you have questions, please contact the DDC Help

Desk at 303-315-3700 or help@cuonline.edu.

Students with Disabilities: Student with disability who want academic accommodations must

register with Disability Resources and Services (DRS), disabilityresources@ucdenver.edu, 303-556-

3450, FAX 303-556-2074. DRS, which requires students to provide current and adequate

documentation of their disabilities. Once a student has registered with DRS, DRS will review the

documentation and assess the student's request for academic accommodations in light of the

documentation. DRS will then provide the student with a letter indicating which academic

accommodations have been approved. Once you provide the instructor with a copy of the DRS

letter, the approved accommodations will be provided.

Religious Observance: Campus policy regarding religious observances requires that faculty make

every effort to deal reasonably and fairly with all students who, because of religious obligations,

have conflicts with scheduled exams, assignments or required attendance. See full details at:

http://www.colorado.edu/policies/fac_relig.htmlLinks to an external site.

Plagiarism: Students are expected to know, understand and comply with the ethical standards of

the university, including rules against plagiarism. Plagiarism is the use of another person's ideas or

works without acknowledgement. The incorporation of another person's work into your own

requires appropriate identification and acknowledgement. The following are considered to be

forms of plagiarism when the source is not noted: word-for-word copying of another person's ideas

or words; the "mosaic" (interspersing your own words here and there while in, essence, copying

another's work); the paraphrase (the rewriting of another's work, while still using their basic ideas

or theories); fabrication (inventing sources); submission of another's work as your own; and

neglecting quotation marks when including direct quotes. For issues concerning to the Honor Code

please refer to:

[http://www.ucdenver.edu/academics/colleges/ArchitecturePlanning/discover/Documents/Honor%20Links to an external site.](http://www.ucdenver.edu/academics/colleges/ArchitecturePlanning/discover/Documents/Honor%20Links%20to%20an%20external%20site.20Code-Graduate%20Students-Fall%202009.pdf)

20Code-Graduate%20Students-Fall%202009.pdf.

Classroom Decorum: The following ground rules apply to all students and are designed to ensure a

classroom environment conducive to learning for all students: Students who engage in disruptive

behavior will be reported to the Office of Student Life for appropriate disciplinary action under the

CU-Denver Code of Student Conduct and, when appropriate, to the Auraria Campus Police for

investigation of possible criminal action. The Code of Student Conduct can be found on the CU

Denver website, under Office of Student Life and Student Activities. Disruptive behavior includes,

but is not limited to, arriving late to class without explanation or apology; leaving class early without

explanation or apology; reading a newspaper or magazine; reading a book with no connection to the

content of the course; engaging in prolonged private conversations; sleeping in class; passing notes;

being under the influence of drugs or alcohol; harassment and verbal or physical threats to another

student or the instructor; inappropriate use of cell telephones, and/or handheld internet devices;

bringing children to class. Please see the Studio Culture Policy posted on Canvas for more

information.

Zoom Recording: In this course, virtual class sessions will take place via Zoom. Zoom sessions maybe

be recorded and posted to the Canvas course shell. Students are not permitted to record the Zoom

sessions. Prior to every recording, I will notify the class that recording will begin. During recordings,

participants will be muted. Students will use the chat or hand-raise feature to share comments and

questions.

Intellectual Property: All studio section instructors have intellectual property rights to all course

documents, including the syllabus, assignments, lectures, etc. Students are prohibited from selling,

or being paid by any person or commercial firm for taking notes or recording class lectures without

the advanced express written permission of the faculty member teaching this course. Exceptions are

permitted for students with a disability who are approved in advance by Disability Resource and

Services for note taking or tape recording as an academic accommodation.

Online Information Distribution: Course information, documents, assignments, communication and

external links will be available to students through Canvas. The login convention is the same as the

university servers and email.

Sketchbook: Students are required to maintain a sketchbook at all times. The sketchbook records

your observations, ideas, sketches, drawings, etc. that emerge from lectures, critiques, and from

assigned readings. Each entry should be dated. Bring your sketchbook to class everyday.

Digital Portfolio: Students are required to compile a portfolio folder of digital records of their work

throughout the semester. This includes scans of all drawings and digital photos of all final models

and process work. Your digital portfolio is to be uploaded to the studio OneDrive folder. Use the

following naming convention:

STUDIO EXPECTATIONS

Design: This Studio, along with all other studio courses in this sequence, is a design studio first and

foremost. Students are expected to treat the project as a representation of architectural ideas,

supported with theoretical, cultural, technical and professional knowledge. Each project is to be

developed to the highest level possible, and students are expected to challenge themselves both

conceptually and technically.

Research: While tangible results and physical production remain the most visible result of any

studio, research of design precedents, building systems, products and materials is required of any

developed project. Research should be presented as synthesized information and as evidence of

design exploration. It is expected that sketches, drawings, diagrams, notes, etc., be created as

students analyze such material. Simply browsing a web page or making a copy of an image is not

research; providing substantive graphic or written analysis of researched material, including

sketches, drawings, bibliographic notes is necessary.

Working Models and Drawings: The drawings, diagrams and models that will be used to design, test

and represent the project throughout the semester should be continually updated and available at

all class meetings. It is important that drawings and models be developed as "working" materials for

quick development matching the fast pace of the studio. Models which display rough cuts and pencil

marks, and drawings which are worked over with notes, trace and sketches show the time and

thought necessary in any true project development. This process is evidence that these materials

are being used as a tool in the design as a way to improve it. Students at this level are required to

find an appropriate balance between the fast pace and necessity of working models & documents,

with the time- consuming craft needed for the full representation of the project.

Software: Rapid changes in the "preferred" drafting/modeling software have created difficulty in

the production of drawing sets and diagrams required for the traditional representation of projects.

Each student is to resolve these difficult issues promptly, early in the semester, so that the

development of both parametric/3D models and 2D architectural documentation can occur

simultaneously.

Production: Studio requires the completion and presentation of a full project using the traditional

methods of plan, section, elevation, site plan, and models. Both physical and 3D modeling

techniques are required. A high level of competency is required for this type of presentation, with

drawings and models being both clear and informational.

New work shall be presented for each meeting. Failure to demonstrate significant, daily progress or

development will count as an absence. Participation in midterm and final reviews is a privilege and

students may be held out of juries based upon the instructor's evaluation of their work to date.

Pinups & Desk Crits: For in-class pinups, students are to present all current drawings, diagrams,

sketches, research and models. The informality of a desk crit is not an excuse for lack of progress or

advancement of the project. A significant advance in the design and the presentation of such is

expected for every class meeting. Drawings and images printed and/or posted to Miro are

acceptable.

STUDIO SPACE

Please observe the following rules in the studios, which have been established for the safety,

convenience, and maintenance of all who use the space. You are required to know and follow

policies and procedures including but not limited to the following: Code of student of conduct,

hazardous materials policy & procedure, spray booth and woodshop/model shop policies &

procedures, photolab policies & procedures and any other relevant environmental health and safety

practices. Copies available in the main office.

1. Respect the arrangement of your desks with your fellow students so that everyone can establish a comfortable working space. Do not block the aisles, which are legally guarded fire escape routes. If you cannot reach a stairway without tripping over desks, you are in violation of the fire codes.
2. Overhead fluorescent lighting fixtures are not to be tampered with.
3. Do not use stereos, iPods, MP3s, etc without headphones. Not everyone may appreciate your music, and no one appreciates hearing them at the same time from opposite ends of the room. Your fellow students have insisted on this rule, so please observe it.
4. Do not use cell phones while in studio or class.
5. Do not draw or paint on the walls. The University is tired of paying for repainting our studios every summer, and are threatening to withdraw maintenance of the studio spaces altogether.
6. Please refer to the MATERIALS + PROCESSING charts posted in the Studio labs. These indicate exactly what materials and processes are not possible or not allowed.
7. Absolutely NO Power Tools are to be used in the studio (inc. 'Dremels'). Use the shop.
8. No sprays of ANY kind are allowed (paints, spray adhesives, Etc.) in the studios, stairwells, crit spaces, outside, i.e., no spraying but in the Spray Booth!
9. Do not cut drawing or model materials on unprotected drawing desks. Have you noticed the unpleasant texture in drawings that are created on ripped-up desk surfaces?
10. Do not bring dogs into the building. This is strictly forbidden by the University because they ruin furniture and carpets and some people are allergic to dogs.

11. Do not bring bicycles into the building. This is also strictly forbidden by the University. They

will be confiscated by CU Police.

12. Do not bring alcoholic beverages or drugs into the building. The University maintains an

alcohol/drug-free policy for its students and in its buildings. You could be expelled for this

violation.

ARCH 6171

INTEGRATION SEMINAR

UNIVERSITY OF COLORADO DENVER

SPRING 2024

MEETING TIMES: Mondays - Thursdays 11:00 AM - 12:15 PM

ROOM: CU BUILDING 470

TYPE: In Person

CREDITS: 3 credit hours

PREREQUISITE: ARCH 6150

CO-REQUISITE: ARCH 6170

INSTRUCTOR: Yasser El Masri, Ph.D.

EMAIL: yasser.elmasri@ucdenver.edu

PHONE/TEXT: 737.333.2702

OFFICE: TBD

OFFICE HOURS: By Appointment

COURSE CATALOG DESCRIPTION: In this seminar, students will develop and document the technical aspects of their Design Studio VI design projects, including, life safety, mechanical, electrical, plumbing, conveyance, accessibility systems, and material assemblies.

COURSE INTENT is to support and supplement the development of the students' design projects in Design Studio VI. The intent is that the work that is completed in this course is generative and informative to the students' design projects through required research, strategy development, and documentation of the implementation of the strategies. The content and schedule of this course are in no way intended to supplant the activities, design process, design intent, and project development of your the studio. Given that there are multiple sections of Design Studio VI, it is inevitable that the schedule of this course will not align precisely with the design process of any of the sections. As such, this course is designed to give guidance, structure, space, and time to the student teams to do the research that will eventually be used to complete their Design Studio VI projects and to strategize on how they will incorporate it into their projects.

NAAB PROGRAM AND STUDENT CRITERIA for this course are the following:

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.5 Research and Innovation—How the program prepares students to engage and participate in architectural research to test and evaluate innovations in the field.

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.

SC.3 Regulatory Context—How the program ensures that students understand the fundamental principles of life safety, land use, and current laws and regulations that apply to buildings and sites in the United States, and the evaluative process architects use to comply with those laws and regulations as part of a project.

SC.5 Design Synthesis—How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating synthesis of user requirements, regulatory requirements, site conditions, and accessible design, and consideration of the measurable environmental impacts of their design decisions.

SC.6 Building Integration—How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating integration of building envelope systems and assemblies, structural systems, environmental control systems, life safety systems, and the measurable outcomes of building performance.

COURSE STRUCTURE is divided into distinct phases related to the NAAB Student Criteria. The first phase will focus on building foundational knowledge on building sciences. In this phase, students will be exposed to concepts pertinent to their Studio VI design project. The second phase will see students integrate this knowledge into their studio projects.

In this course, students will work in the same teams as in studio.

SUGGESTED BIBLIOGRAPHY can be found on Canvas in the readings folder.

GRADING: The final grade will take into consideration all assignments during the project. Incomplete work will receive a grade deduction depending on the level of incompleteness. Unexcused late work will not be graded. Team projects will be carefully assessed for each student's participation, and each student will be evaluated individually and, as such, will receive a grade based on their demonstrated work. Additionally, as a stand-alone course, this course will be graded independently from Studio VI. The grading scale is as follows:

	A	100 – 95	A-	94 – 90
B+	B	86 – 84	B-	83 – 80
C+	C	76 – 74	C-	73 – 70
D+	D	66 – 64	D-	63 – 60
F		59 – below		

All students enrolled as majors in the architecture programs are expected to maintain at least a B average in all work attempted while enrolled in the College of Architecture and Planning. The minimum-passing grade recognized by the faculty of the architecture program for classes in the program curricula is a B-. The faculty will, however, allow a student who has received a C+ in a required design studio to register for the subsequent studio in the sequence. The student must earn a minimum grade of B in that studio in order not to have to repeat the studio in which the C+ was received. As the final studio, a student would be required to retake the same studio the following year to complete their degree.

If for any reason, you receive a grade, which you feel is unfair, you have several avenues open to you. First, see your studio instructor and ask for an explanation. He or she will try to explain the reasoning behind the grade. If you are not satisfied with the explanation, you are entitled to pursue the "GRADE APPEAL PROCESS" as outlined here. Though not a formal part of the process, you or your instructor may seek assistance from the University Ombuds Office for "informal, impartial, and confidential dispute resolution services." You can contact them via their website.

COURSE OUTPUTthe course intends to achieve two main objectives: Build Foundational Knowledge, Achieve Successful Integration of principles with studio projects

The course comprises multiple phases that will help students achieve their successful integration. These include topics related to building sciences such as the Site Analysis, Building Envelope, HVAC systems, Lighting, Fire & Life Safety, Materials, and Accessibility among others. Each phase has a corresponding deliverable designed to test your understanding of the concepts and topics covered in class and gauge where any gaps in your knowledge lie. Additionally, the final project which will judge the integration of different systems and principles in your studio work will comprise 40% of your grade. That 40% will be divided as follows:

Depth and Quality of Integration	35%
Creativity of Solutions	35%
Quality of Outputs	30%

WORK SUBMISSION in this course will be done through Canvas.

ATTENDANCE is expected, and class begins and ends on time. Information missed due to an unexcused absence or arriving late, or leaving early is the responsibility of the student.

LATE ASSIGNMENTS will receive 1/2 LETTER GRADE REDUCTION every day they are late. Any student who does not participate in pin-ups/reviews, misses quizzes and/or examinations, or fails to turn in homework and/or papers will receive either a zero (0) or an F for the work missed.

INCOMPLETE GRADES will follow the current university policy concerning Incomplete Grades. Incomplete grades are given only in situations where unexpected emergencies prevent a student from completing the course, and the remaining work can be completed the next semester. This will affect your ability to graduate in the spring semester. Your instructor is the final authority on whether you qualify for an incomplete. Incomplete work must be finished by the end of the subsequent semester, or the "I" will automatically be recorded as an "F" on your transcript.

PLAGIARISM will not be tolerated in this course. Students are expected to know, understand, and comply with the ethical standards of the university, including rules against plagiarism. By definition, plagiarism is the use of another person's ideas or words without acknowledgment. The incorporation of another person's work into yours requires appropriate identification and acknowledgment. The following are considered to be forms of plagiarism when the source is not noted: word-for-word copying of another person's ideas or words; the "mosaic" (interspersing your own words here and there while, in essence, copying another's work); the paraphrase (the rewriting of another's work, while still using their basic ideas or theories); fabrication (inventing sources); submission of another's work as your own; and neglecting quotation marks when including direct quotes.

STUDENTS WITH DISABILITIES who want academic accommodations must register with Disability Resources and Services (DRS), North Classroom 2514, 303-556-3450, TTY 303-556-4766, FAX 303-556-4771. DRS requires students to provide current and adequate documentation of their disabilities. Once a student has registered with DRS, DRS will review the documentation and assess the student's request for academic accommodations in light of the documentation. DRS will then provide the student with a letter indicating which academic accommodations have been approved. Once you provide me with a copy of DRS's letter, I will be happy to provide those accommodations DRS has approved.

DIVERSITY AND INCLUSION are of the utmost importance for creating an impactful learning environment. It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength, and benefit. It is my intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, culture, etc. I want to create a learning environment that supports a diversity of thoughts, perspectives, and experiences, and honors your identities (including race, gender, class, sexuality, religion, ability, etc.) To help accomplish this:

- If you have a name and/or set of pronouns that differ from those that appear in your official records, please let me know!
- If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to come and talk with me. I want to be a resource for you. Remember that you can also submit anonymous feedback (which will lead to me making a general announcement to the class, if necessary, to address your concerns). If you prefer to speak with someone outside of the course, the Office of Diversity, Equity & Inclusion, is an excellent resource.
- I (like many people) am still in the process of learning about diverse perspectives and identities. If something was said in class (by anyone) that made you feel uncomfortable, including by me, please talk to me about it. (Again, anonymous feedback is always an option). Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. In addition, if any of our class meetings conflict with your religious or other cultural events, please let me know so we can make arrangements for you.

HEALTH AND WELLNESS issues have become more prevalent over the past few years and should not be ignored. As a student, you may experience a range of challenges that can interfere with learning, such as strained relationships, traumas, increased anxiety, substance use, feeling down, difficulty concentrating, and/or lack of motivation. These mental health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. If you or someone you know is struggling, you can find supportive campus and community resources at the Health Center at Auraria or the CU Denver Counseling Center. On weekends, holidays, or after-hours, you can contact the 24/7 Mental Health Crisis and Victim Assistance Line at 303-615-9999 or text Talk to 38255.

The University of Colorado Denver is committed to the health and well-being of all students. We recognize that diminished mental health, including significant stress, mood changes, excessive worry, or problems with eating and/or sleeping, can interfere with optimal academic performance. The source of such symptoms can be quite varied and include experiences of trauma (such as sexual and relationship violence, stalking, discrimination, crimes, and accidents, responses to coursework, family worries, loss, personal struggle, or crisis. If you or someone you know is struggling, you can find supportive campus and community resources at the CU Denver Counseling Center or by calling the (303-315-7270 or the Health Center at Auraria (303-615-9999 On weekends, holidays, or after-hours, you can contact the 24/7 Mental Health Crisis and Victim Assistance Line at 303-615-9999 or text Talk to 38255.

CLASSROOM DECORUM must be maintained at all times. The following ground rules apply to all students and are designed to ensure a classroom environment conducive to learning for all students: Students who engage in disruptive behavior will be reported to the Office of Student Life for appropriate disciplinary action under the CU-Denver Code of Student Conduct and, when appropriate, to the Auraria Campus Police for investigation of possible criminal action. The Code of Student Conduct can be found on the CU-Denver website, under Office of Student Life and Student Activities. Disruptive behavior includes, but is not limited to, arriving late to class without explanation or apology; leaving class early without explanation or apology; reading a newspaper or magazine; reading a book with no connection to the content of the course; engaging in prolonged private conversations; sleeping in class; passing notes; being under the influence of drugs or alcohol; harassment and verbal or physical threats to another student or the instructor; inappropriate use of cell telephones, and/or handheld internet devices; bringing children to class. Please see the Studio Culture Policy posted on Canvas for more information.

INTELLECTUAL PROPERTY is maintained by the instructor (Yasser El Masri) of this course, its syllabus, and all lectures. Students are prohibited from selling or being paid by any person or commercial firm for taking, notes or recording class lectures without the advance express written permission of the faculty member teaching this course. Exceptions are permitted for students with a disability who are approved in advance by Disability Resources and Services for note-taking or recording as an academic accommodation.