



Land Acknowledgement: <https://www.ucalgary.ca/indigenous/cultural-teachings/territorial-land-acknowledgement>

Course Number: DSGN 500

Section Number: B06 and B07

Course Name: Experiential Learning in Design and City Innovation (“Touch Mud: Advanced Fabrication in Architectural Ceramic Material Systems”)

Classroom: [REDACTED]

Instructor: Isabel Ochoa Quintero

- Email: Isabel.ochoaquintero@ucalgary.ca
- Office Hours and Location: by appointment only
- Instructor Email Policy: Please note that all course communications must occur through your @ucalgary email, and I will respond to emails sent via students’ @ucalgary emails within 48 hours excluding weekends and statutory holidays.

Class Dates: Mandatory all in-person classes: Mondays and Thursdays, May 4 – June 17, 9:00AM to 12:00PM and 1:00PM to 4:00PM

Class activities scheduled outside of regular class hours:

Monday May 11 – 5:00PM to 9:00PM (no class in the morning – conflict with faculty first aid training)

Tuesday May 19 – 9:00AM to 12:00PM (make-up crit day for statutory holiday)

Wednesday June 3 @7:00AM – Thursday June 4 @9:00PM – Overnight field trip to Medalta/Medicine Hat

Thursday June 11 – Clay Harvesting Field Trip to Cochrane Farm

Course Description:

Computational tools and workflows are transforming the contemporary landscape of ceramic fabrication, reshaping how materials, design, and technology intersect within architectural production. This course examines the role of new technologies in contemporary masonry design, asking how digital processes can be meaningfully integrated into established modes of building construction to support innovation.

Through a research-through-making approach, students will investigate the hybridization of traditional ceramic craft with emerging fabrication technologies. The course introduces students to formative manufacturing, offering opportunities to assess the benefits and limitations of this technique in the context of small-batch component production. Students will learn how this process can be strategically employed to harness the material properties of clay and optimize forms for manufacturability and architectural performance.

Projects will consist of analogue and digital skill-building seminars, allowing students to develop mastery over the medium and its tools. For their final project, students will design and prototype a full-scale experimental masonry system, using computational design and digital fabrication tools to envision a building component. Emphasis will be placed on creating systems that integrate design, material, functional, and aesthetic value while demonstrating market potential. Students will explore how ceramic and masonry fabrication can be reshaped by emerging technologies, gaining the conceptual and technical skills to contribute to the evolving dialogue between craft and computation.

- Course Hours: 6 units; (3-0)
- Link to the [Calendar description](#)

Requisites: See [Section 3.3.5](#) of the Academic Calendar for more information regarding School of Architecture, Planning and Landscape courses.

- Prerequisite(s): 72 units and admission to the Bachelor of Design in City Innovation program.

Course Delivery:

- In-person Delivery

Course Learning Outcomes:

Upon completion of this course, students will know and be able to:

1. Investigate fabrication and material research as integral to design.
2. Gain familiarity with ceramic and plaster processing and material properties.
3. Develop a critical approach to making.
4. Design and build at 1:1 scale.
5. Gain experience with digital and analogue manufacturing tools.
6. Apply design considerations for manufacturability and assembly.
7. Recognize issues of product safety and reliability.

Learning Resources:

- Technology requirements:
 - To successfully engage in this course, students are required to have reliable access to the following technology:

- A computer with a supported operating system, as well as the latest security, and malware updates;
- A current and updated web browser;
- Current antivirus and/or firewall software enabled;
- Broadband internet connection
- Rhino 7 or Rhino 8
- [Student IT Resources](#)
- PPE requirements:
 - **Students are required to have the following personal protective equipment (PPE) to participate in the course:**
 - A non-disposable P-100 respirator.
 - Splash goggles.
 - Extended-length rubber gloves.

Workshop, Maker and Assembly Space Training Requirements:

- If a course requires the use of the Workshop and/or the Maker and Assembly Space, students must complete all relevant online University of Calgary safety courses and the online Trajectory Safety training course to be granted access.

Special Budgetary Requirements:

There is a mandatory course material fee of ~\$100 per student that will cover all clay, plaster, and glaze for the course. This fee must be paid on Thursday, May 7 in the workshop.

Students can expect to spend an additional ~\$50CAD on model-making materials and plotting for the term.

Field trip costs will be confirmed on Thursday, May 7 during the field trip information session.

Workshop Safety Training Requirement:

If a course requires the use of the SAPL workshop, students must complete all online University of Calgary safety courses, the online Trajectory safety training course, as well as in-person workshop training and a grade of pass on the final evaluation project, to be granted access to the SAPL workshop. This training is offered once a year, around the start of the Fall term and has a completion deadline.

***A note on wet laboratory etiquette:** Raw plaster, clay and glazes are difficult materials to manipulate. They have a range of states that we will be working with: from liquid, to plastic, to highly brittle. When wet clay is left to dry it hardens into a fragile medium. If this substance is crushed or broken into small particles, it turns into fine clay dust that can be easily inhaled. For everyone's health and safety, and the quality and craft of the course work, it is of utmost importance that we strive to keep our 'wet lab' and tools clean using the appropriate protocols mandated by our workshop staff and the instructors. All clay and plaster tools and 3DP equipment are essential to the success of this course. It is therefore paramount that each course participant plays an active role in taking care of the limited resources that

we have. These protocols will be discussed and demonstrated at length during class. Wet-laboratory etiquette will be evaluated based on each group's adherence to these protocols during fabrication times. Fabrication hours will be logged via D2L and a shared calendar system. The instructor will be checking these logs regularly against conditions in the lab.

Design Studio Health and Safety:

Studios at SAPL are designated as lab-like environments under the University of Calgary's Environmental Health & Safety (EHS) requirements. All students and instructors must comply with both university-wide safety standards and the SAPL-specific studio rules outlined below. These rules are in place to ensure a safe, functional, and respectful working environment for everyone. Failure to comply may be considered Academic or Non-Academic misconduct and be subject to disciplinary action, including loss of studio and/or workshop privileges under the SAPL demerit system.

Conduct & Culture

- No horseplay, pranks, or behavior that could distract or endanger others. Keep voices and music at levels that don't mask hazards or emergency instructions.
- All posted door placards and safety signage must be followed at all times.

Fire Safety, Exits & Evacuation

- Keep aisles, doors, and all emergency equipment fully clear at all times; do not block exits with models, carts, or materials. Obey Emergency/Fire Wardens during drills and alarms.
- Nothing may be stored on top of lockers (fire code/OH&S).
- During an evacuation: leave immediately, use stairs, go to the assembly point, and wait for the all-clear.

Prohibited & Restricted Items in Studios

- No flammable sprays or solvents (e.g., spray paint, spray glue, fixatives) may be used or stored in studios. Use only in a designated spray booth with ventilation.
- Freshly laser-cut plastics must not be stored in studios due to off-gassing; allow time for ventilation per shop guidance.
- No concrete powder storage in studios.
- No small kitchen appliances (kettles, coffee makers, hot plates, etc.).
- No drugs or alcohol may be consumed or stored on campus.

Materials

- Use only materials approved for studio use. If you have any questions, please ask your instructor, workshop personnel, or the Manager of Faculty Operations.
- Store materials neatly; dispose of hazardous waste per posted instructions—never in regular bins.

Housekeeping & End-of-Term Cleanout

- Maintain a clean, orderly workstation; manage offcuts and trip hazards promptly.
- End of term: remove all models and supplies from studios and model storage by posted deadlines—items left will be discarded.

Layout, Furniture & Power

- Do not relocate furniture to other areas or reconfigure studio layouts without authorization from Faculty Operations.
- Each student may have one locker only.
- Nothing may be hung from ceilings except approved extension cords for power. If you need additional power, contact a technician or Building Operations; do not DIY electrical setups.
- Personal heaters require Faculty Operations approval.

Working Hours, Security & Working Alone

- After hours: do not admit unknown persons; theft and damage have occurred this way.
- If anyone is actively building/cutting/gluing, studio lights must remain on for safety.
- Working alone: follow UCalgary's Working Alone Standard—use the UCSafety App check-in feature or an approved plan, especially after hours.

PPE & Personal Safety

- Tie back long hair; avoid loose clothing, scarves, dangling jewelry, and headphones when performing tasks that could snag. Wear eye protection when there's risk from cutting/sanding/particulates; use respiratory protection/booths where required.
- Closed-toe footwear is mandatory; hearing/respiratory protection as task-appropriate. (See posted signage and SDS guidance.)

Tools & Equipment in Studios

- Use tools only for their intended purpose and only those permitted in studios by your instructor and posted rules. High-risk tools (e.g., power tools) are not operated in studios without coordination with workshop personnel.
- Report damaged or malfunctioning furniture or equipment immediately—do not attempt repairs yourself.

Incidents, Reporting & Enforcement

- Report all injuries, near misses, and hazards immediately to your instructor and Campus Security; complete required incident reports per university procedure.
- Safety violations may be considered Academic or Non-Academic misconduct and trigger disciplinary action. Persistent non-compliance is escalated to Faculty Operations/Associate Dean.

Instructor Responsibilities (Studios)

- Instructors are responsible for monitoring and enforcing studio safety, addressing prohibited activities (e.g., sprays in studios, blocked exits), and escalating repeat violations to Faculty Operations. (Workshop personnel focus on workshop safety under the revised framework.)

Additional Classroom Conduct and Related Information:

- **Code of Conduct:** The SAPL Studio spaces and other SAPL/University-provided facilities and equipment are governed by the [University's Student Non-Academic Misconduct Policy](#). Professional and courteous behavior is expected at all times. For more information, please refer to [Appendix 1: Prohibited Conduct](#), including the following categories: 1. Protection of Individuals; 2. Protection of Property; 3. Protection of University Functions, Activities and Services; 4. False Information and Identification; 5. Possession or Use of Dangerous Objects, Drugs or Alcohol; 6. Aiding in the Commission of an Offense; 7. Contravention of Other Laws and University Policies; and 8. Failure to Comply with a Sanction.

Assessment Components:

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the Academic Calendar. In determining the overall grade in the course, the following weights will be used:

Assessment Method	Description	Weight	Aligned Course Learning Outcome
P1	Tessellation	20%	1-7
P2.1	Working Prototype	20%	1-7
P2.2	Functional Prototype	40%	1-7
Wet-Lab Etiquette and Fabrication Workshops	*See the section in the syllabus on Workshop Safety Training Requirements	20%	1-7

- Assessment and Evaluation Information:
 - If a student misses (or is late for) a required component of the course for a valid excuse or absence, they must contact the instructor in writing within 24 hours to discuss applicable options to submit and/or make-up for that component.
 - Alternate arrangements for missed in-person assessments with a valid excuse will be made on a case-by-case basis at the discretion of the Instructor and upon review of the student's class participation and attendance record.
 - For example, students who have missed an in-person assessment (e.g., oral presentation) as a result of an excused absence may be asked—if applicable to the assessment—to submit a self-recorded video (via Zoom's auto-record feature) in lieu of an in-person engagement.

- For assessments submitted online (e.g., D2L), late assignments *with a valid excuse* may be considered for grading without penalty at the discretion of the Instructor and upon review of the student's class participation and attendance record. Otherwise, the course's standard grade penalties (indicated below) will apply.
- For assessments submitted online (e.g., D2L), all late assignments *without a valid excuse* will lose a letter grade (e.g., A- to B-) every 24 hours after the submission date/time. Late assignments submitted more than four days late constitute an automatic zero (0).
- Missed in-person assessments (e.g., oral presentation, exam, etc.) as a result of an *unexcused* absence will receive an automatic zero (0).
- Attendance and Participation Expectations:
 - Students are expected to attend and come prepared to meaningfully engage in all class sessions. This includes producing or preparing content necessary for discussion and contributing to individual and class-wide discussions and/or conversations/assessments with the Course Instructor.
 - **Excused Absences:** In the event of an exceptional circumstance (e.g., illness, bereavement, etc.) or an exceptional opportunity (e.g., varsity athletic competition, national conference or awards ceremony, pow wow, etc.) up to four excused absences (for courses that meet twice or more per week) and up to two excused absences (for courses that meet once per week) are allowable per semester before jeopardizing one's own course grade and ability to pass the course. However, any such arrangements must be approved by the Instructor with advance notice by the student.
 - **Unexcused Absences:** Attendance at all class sessions and participation in all assessments is mandatory. Unexcused absences in excess of two per semester (for courses that meet twice per week) and one per semester (for courses that meet once per week) are grounds for failure in the course.
 - **Total Number of Absences:** The combined total number of excused AND unexcused absences per semester cannot exceed four per semester (for courses that meet twice per week) or two per semester (for courses that meet once per week). Any number in excess are grounds for failure in the course.
- Guidelines for Submitting Assignments:
 - All assignments (e.g., projects, papers, presentations, etc.) must be turned in on time.
 - Please submit all assignments electronically through Dropbox in D2L. Assignments may be submitted in PDF format (unless otherwise stated).
 - Students are responsible for ensuring that all submitted digital files are in the correct format, complete, and accessible. Submissions that are corrupt, empty, incorrect (e.g., wrong file type), or inaccessible may receive a grade of zero. It is not the Instructor's responsibility to verify or notify students of submission errors. Students are encouraged to double-check their uploads and retain confirmation of successful submission.
 - **Late Assignments:** Please see above for the course's policy on late assignments/assessments.

- Final Examinations:
 - This course has no final examination.
- Expectations for Writing:
 - Please see the “Copyright and Legislation” Section of the University of Calgary Policies and Supports for information on the use of AI in this course.
 - Section E.2 Writing Across the Curriculum:
<https://calendar.ucalgary.ca/pages/2c2d1ce47b8c4d008aec9cc3da49876e>
- **Criteria that must be met to pass:** Students must submit all assignments to receive a passing grade in this course.

Flexible Grade Option (CG Grade):

As per [Section 3.5.1](#) of the Academic Calendar, the School of Architecture, Planning and Landscape will not permit the Flexible Grade Option (CG Grade) for any course offered by the School, with the exception of the following courses:

- Architecture 201
- Landscape Architecture 201
- Planning 201

Grading Scale:

Based on [Section F.1.1](#) of the Academic Calendar

Grade	Grade Point Value	4-Point Range	Percent	Description
A+	4.00	4.00	95-100	Outstanding performance
A	4.00	3.85-4.00	90-94.99	Excellent performance
A-	3.70	3.50-3.84	85-89.99	Approaching excellent performance
B+	3.30	3.15-3.49	80-84.99	Exceeding good performance
B	3.00	2.85-3.14	75-79.99	Good performance
B-	2.70	2.50-2.84	70-74.99	Approaching good performance
C+	2.30	2.15-2.49	65-69.99	Exceeding satisfactory performance
C	2.00	1.85-2.14	60-64.99	Satisfactory performance
C-	1.70	1.50-1.84	55-59.99	Approaching satisfactory performance. Minimum grade requirement for SAPL prerequisite courses.
D+	1.30	1.15-1.49	50-54.99	Marginal pass. Insufficient preparation for subsequent courses in the same subject.
D	1.00	0.50-1.14	45-49.99	Minimal Pass. Insufficient preparation for subsequent courses in the same subject.
F	0.00	0-0.49	0-44.99	Failure. Did not meet course requirements.

Topic Areas and Detailed Class Schedule:

Course Schedule Date	Topic	Learning Activity	Assessments and Due Dates
Monday May 4	Introduction to Fired Ceramics	Introductory Lecture, P1 Assigned, P1 Crits	
Thursday May 7	Pattern Making	P1 Crits, Pattern Making Workshop	
Monday May 11	Introduction to Plaster Casting for Press Moulding	P1 Patterns Due, P1 Plaster Casting Workshop	
Thursday May 14	Press Moulding	Press Moulding Workshop, P2.1 Assigned	
Sunday May 17			P1 Greenware Due
Monday May 18	Victoria Day, University closed		
Tuesday May 19	Design Development	*Make-up day for Victoria Day P2.1 Crits	
Thursday May 21	Design Development	P2.1 Crits	
Monday May 25		*No class (3 contact days next week)	
Thursday May 28	Introduction to Glaze Technology	Glaze Workshop	
Sunday May 31			P2.1 D2L Submission
Monday June 1	Design Reviews	P2.1 Review, P2.2 Assigned	
Wednesday June 3	History of Masonry in Alberta	Field Trip (Medalta)	
Thursday June 4	History of Masonry in Alberta	Field Trip (Medalta)	
Monday June 8	Fabrication	Work session	P2.2 60% Greenware Due
Wednesday June 10			P2.2 100% Greenware Due
Thursday June 11	Material Extraction	Field Trip (Clay Harvesting)	
Monday June 15	Last Day of Class	Work session	
Wednesday June 17	Start of Exams – Final Review		
Friday June 20	P1 + P2.2 D2L Submission		
June 20	End of Exams		

Scheduled Out-of-Class Activities:

The following out-of-class activities are scheduled for this course:

Activity	Location	Date and Time	Duration
Make-up workshop time for faculty first aid training conflict		May 11, 5:00PM-9:00PM	4 hours
Make-up crit day for statutory holiday		May 19, 9:00AM-12:00PM	3 hours
Field Trip #1	Medicine Hat	June 3-June 4	2 days
Field Trip #2	Cochrane Farm	June 11	1 day

University of Calgary Policies and Supports:

ACADEMIC ACCOMMODATION

<https://ucalgary.ca/student-services/access/prospective-students/academic-accommodations>

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The student accommodation policy can be found at:

<https://www.ucalgary.ca/legal-services/university-policies-procedures/student-accommodation-policy>

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf>

Students needing an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to their instructor (contact information on first page above).

[Student Accessibility Services](#) will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/.

ACADEMIC MISCONDUCT

Academic Misconduct refers to student behavior which compromises proper assessment of a student's academic activities and includes: cheating; fabrication; falsification; plagiarism; unauthorized assistance; failure to comply with an instructor's expectations regarding conduct required of students completing academic assessments in their courses; and failure to comply with exam regulations applied by the Registrar.

For information on the Student Academic Misconduct Policy and Procedures please visit:

- Student Academic Misconduct Policy: <https://www.ucalgary.ca/legal-services/university-policies-procedures/student-academic-misconduct-policy>
- Student Academic Misconduct Procedure: <https://www.ucalgary.ca/legal-services/university-policies-procedures/student-academic-misconduct-procedure>

Additional information is available on the Academic Integrity Website at <https://www.ucalgary.ca/student-services/student-success/learning/academic-integrity>.

COPYRIGHT LEGISLATION

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (<https://www.ucalgary.ca/legal-services/university-policies-procedures/acceptable-use-material-protected-copyright-policy>) and requirements of the Copyright Act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorised sharing of course materials (including instructor notes, electronic versions of textbooks, etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy (<https://www.ucalgary.ca/legal-services/university-policies-procedures/student-non-academic-misconduct-policy>).

Notice to Students Regarding Use of Generative Artificial Intelligence (AI) Applications and Tools in Learning Environments

- **Unrestricted Use:** Students may use generative AI tools throughout this course to enhance their learning in any course learning activities, assignments, and assessments. Students are responsible for citing and referencing all work generated by AI tools as outlined by the course instructor.
 - **Example Statements:**
 - Students may use AI tools for understanding course materials and producing assignments but must be accountable for their submissions.
 - AI-generated content must be submitted as an appendix with the prompt used.
 - Reflections on AI tool usage should be included in assignments.
 - AI-generated content must be cited appropriately.

INSTRUCTOR INTELLECTUAL PROPERTY

Course materials created by instructors (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the instructor. These materials may NOT be reproduced, redistributed or copied without the explicit consent of the instructor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing.

PROTECTION OF PRIVACY ACT

The University of Calgary (University) respects your privacy and is committed to ensuring the privacy of all students, staff, and community members. UCalgary's collection, use, and disclosure of your personal information is authorized under section 4(c) of the Alberta [Protection of Privacy Act](#) (POPA). It will be collected, used and disclosed as permitted under POPA and in accordance with the University's [Privacy Policy](#) and [Notice of Collection, Use and Disclosure of Student Personal Information](#). All student assignments and personal information provided to your course instructor will remain confidential unless otherwise stated before submission. It will not be disclosed to anyone else without your permission unless permitted under POPA.

SEXUAL AND GENDER-BASED VIOLENCE POLICY

The University recognizes that all members of the University Community should be able to learn, work, teach and live in an environment where they are free from harassment, discrimination, and violence. The University of Calgary's Sexual and Gender-Based Violence Policy guides us in how we respond to incidents of sexual and/or gender-based violence, including supports available to those who have experienced or witnessed sexual/gender-based violence, or those who are alleged to have committed sexual/gender-based violence. It provides clear response procedures and timelines, defines complex concepts, and addresses incidents that occur off-campus in certain circumstances. Please see the policy available at <https://www.ucalgary.ca/legal-services/university-policies-procedures/sexual-and-gender-based-violence-policy>.

UNIVERSITY STUDENT APPEALS OFFICE

If a student has a concern about a grade that they have received, they should refer to Section I of the Undergraduate Calendar (<https://calendar.ucalgary.ca/uofcregs/university-regulations/reappraisal-term-work>) which describes how to have a grade reappraised.

OTHER IMPORTANT INFORMATION

Please visit the Registrar's website at <https://www.ucalgary.ca/registrar/registration/course-outlines> for additional important information on the following:

- Wellness and Mental Health Resources
- Student Success
- Student Ombuds Office
- Student Union (SU) Information
- Graduate Students' Association (GSA) Information
- Emergency Evacuation/Assembly Points
- Safewalk