



<b>Course Number</b>	ARCH 672 L06	<b>Classroom</b>	ZOOM
<b>Course Name</b>	Experimental Learning in Architecture. Generative Design - REVIT, MidJourney and ChatGPT		
<b>Pre/Co-Requisites</b>			
<b>Instructor</b>	David Burch	<b>Office Hours/Location</b>	Duration of Intensive
	Email: <a href="mailto:drburch@ucalgary.ca">drburch@ucalgary.ca</a>		Phone: <b>403-830-5218</b>
<b>Class Dates</b>	Block Week Intensive		
<b>Instructor Email Policy</b>	Please note that all course communications must occur through your @ucalgary email, and I will respond to emails sent via student's @ucalgary emails within 6 hours.		
<b>Name and Email of Teaching Assistant(s)</b>			

## Course Description

In this class we will explore the potential and impact of AI Based generative conceptual design.

We will be looking at methods of taking design options generated by MidJourney and converting them to buildable projects in REVIT, using families, and potentially Adaptive Components and conceptual masses. Then describing the project using Chat GPT.

MidJourney allows you to explore several design options to create a rough design idea. This idea needs to be rationalized through modeling.

Adaptive components bring shape and form to architecture, allowing designers to craft complex geometry easily. Using this technology in pattern panel families, adaptive component families, conceptual massing environments or projects can create a seamless design for architects as well as an aesthetically pleasing outcome.

Chat GPT will be used both to create the final project narrative, but can also be used to create meaningful Midjourney Prompt to feed into the generation of the design concepts.

Finally you will write a short description of your method, along with your impressions of this process and its usefulness. This is an exploration of these new tools.

In this 5 day intensive, we will introduce general methods of going from design ideas, to BIM Models using the primary types of Adaptive components. Then describe the design using Chat GPT.

**Course Hours:**5 day intensive

## Online Delivery (If applicable)

This course will take place **online** via Zoom. Students are required to participate in the asynchronous learning tasks using the D2L learning environment and synchronous Zoom sessions. If unable to participate live due to unforeseen circumstances, inform the instructor in advance to work out an alternative participation activity (e.g., watch the recordings, submit a brief reflection, and actively contribute to the follow-up online discussion).

We will have 2 guest lecturers:

- **Matt Clementson: Arcadis | IBI Group** – [matt.clementson@ibigroup.com](mailto:matt.clementson@ibigroup.com)  
Matt is a graduate of the Welsh School of Architecture in Cardiff, UK. After graduation he was a co-founder and director of a startup visualization company, which he helped grow to a successful, thriving small business. He joined Arcadis IBI Group in 2003. In 2014 he relocated to Canada and is now an Associate Director and the Practice Lead for Visualization Services. He is passionate about all things visualization and strongly advocates for new visualization techniques such as real-time technologies, virtual/augmented realities and AI/machine learning.
- **Fred Chan, Mount Royal University Library** – [fchan@mtroyal.ca](mailto:fchan@mtroyal.ca)  
Fred is currently the Collections Support Analyst at Mount Royal University Library, where he applies statistical tools and data analytics/visualization to inform decision-making. He received his PhD from the Faculty of Education, University of Hong Kong in 2022 with a thesis titled “Digital Divide in Hong Kong Secondary Education: A Cultural Capital Perspective”. From 2014 to 2017, he was the Research and Data Services Librarian at the University of Hong Kong Libraries. He is interested in how emerging tools contribute to learning and research, and the impact of the Internet on adolescents’ lives.

## Course Learning Outcomes

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

1. Create design ideas using MidJourney
2. Convert a selected design to REVIT using Massing, families, or adaptive components.
3. Create a project narrative using chat GPT.
4. Report on your findings and impressions using these tools.

## Learning Resources

Access to Pinnacle online training materials will be provided.

Required readings, textbooks and learning materials:

- **General Knowledge of REVIT. We will entertain other modeling applications.**
- **Students will be provided access to Pinnacle for additional recorded learning resources.**
- **Links to other resources will be provided as required.**

**Technology requirements:** In order to successfully engage in their learning experiences at the University of Calgary, students taking online, remote and blended courses 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;
- Webcam (built-in or external);
- Microphone and speaker (built-in or external), or headset with microphone;

- Broadband internet connection
- [Revit 2023](#)
- Access to Discord account. This is used for Midjourney, but we will also have a support Server setup

### **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.

## **Additional Classroom Conduct and Related Information**

### **Guidelines for Zoom Sessions in Online Classes**

Students are expected to participate actively in all Zoom sessions and to turn on their webcam. Please join our class in a quiet space that will allow you to be fully present and engaged in the Zoom sessions. Students must behave in a professional manner during the session. Students, employees, and academic staff are also expected to demonstrate behaviour in class that promotes and maintains a positive and productive learning environment.

## **Assessment Components**

Assessment Method	Description	Weight	Aligned Course Learning Outcome
Submission	Mid Journey examples report with selection	25	1
Submission	Design Model based on selected design	25	2
Submission	Project Narrative created with ChatGPT	25	3
Presentation	Presentation of results, with a 1 page description of your thoughts on the process	25	4

## **Assessment and Evaluation Information**

Attendance and Participation Expectations:

Guidelines for Submitting Assignments:

**Final Examinations:**

Submission of an Adaptive component in a REVIT Project. Dynamo Sketch driving the adaptive component. This can be placement, parameter modification or Color/material.

Expectations for Writing (<https://www.ucalgary.ca/pubs/calendar/current/e-2.html>):

**Late Assignments:**

Criteria that must be met to pass: (e.g. whether a passing grade on any particular component of a course is essential if the student is to pass the course as a whole; information on what students should do if they miss a required component of the course, etc.)

## Grading Scale

Grade	Grade Point Value	4-Point Range	Percent	Description
A+	4.00	4.00	95-100	Outstanding - evaluated by instructor
A	4.00	3.85-4.00	90-94.99	Excellent - superior performance showing comprehensive understanding of the subject matter
A-	3.70	3.50-3.84	85-89.99	Very good performance
B+	3.30	3.15-3.49	80-84.99	Good performance
B	3.00	2.85-3.14	75-79.99	Satisfactory performance
B-	2.70	2.50-2.84	70-74.99	Minimum pass for students in the Faculty of Graduate Studies
C+	2.30	2.15-2.49	65-69.99	All final grades below B- are indicative of failure at the graduate level and cannot be counted toward Faculty of Graduate Studies course requirements.
C	2.00	1.85-2.14	60-64.99	
C-	1.70	1.50-1.84	55-59.99	
D+	1.30	1.15-1.49	50-54.99	
D	1.00	0.50-1.14	45-49.99	
F	0.00	0-0.49	0-44.99	

A student who receives a "C+" or lower in any one course will be required to withdraw regardless of their grade point average (GPA) unless the program recommends otherwise. If the program permits the student to retake a failed course, the second grade will replace the initial grade in the calculation of the GPA, and both grades will appear on the transcript.

The School of Architecture, Planning and Landscape will not permit the Flexible Grade Option (CG Grade) for any course offered by the School. (<https://www.ucalgary.ca/pubs/calendar/current/salp-3-3.html>)

## Topic Areas & Detailed Class Schedule

*Class Starts @ 9:00 till 11:30. Break from 11:20 to 1:30. Afternoon Session from 1:30 till 4:00. Instructor will be available after 5:00 for Questions.*

*ZOOM meeting link will be sent out shortly.*

Course Schedule Date	Topic	Assignments/Due Dates
Monday, March 13	Class Introduction / MidJourney Orientation	Generate and select a design Option
Tuesday, March 14	REVIT Massing and Adaptive Components / Strategy for Model Conversion / Lab Time	Start creating the model
Wednesday, March 15	Chat GPT / Lab Time	Start the Design Narrative
Thursday, March 16	Final Model Development and completion	
Friday, March 17	15 Minute Presentation	Submission of assessment items through D2L EOD.

Indicate the following dates:

- If applicable, dates, times and locations of all approved class activities scheduled outside of regular course hours

## Guidelines for Zoom Sessions

Zoom is a video conferencing program that will allow us to meet at specific times for a "live" video conference, so that we can have the opportunity to meet each other virtually and discuss relevant course topics as a learning community.

To help ensure Zoom sessions are private, do not share the Zoom link or password with others, or on any social media platforms. Zoom links and passwords are only intended for students registered in the course. Zoom recordings and materials presented in Zoom, including any teaching materials, must not be shared, distributed or published without the instructor's permission.

The use of video conferencing programs relies on participants to act ethically, honestly and with integrity; and in accordance with the principles of fairness, good faith, and respect (as per the [Code of Conduct](#)). When entering Zoom or other video conferencing sessions (such as MS Teams), you play a role in helping create an effective, safe and respectful learning environment. Please be mindful of how your behaviour in these sessions may affect others. Participants are required to use names officially associated with their UCID (legal or preferred names listed in the Student Centre) when engaging in these activities.

Instructors/moderators can remove those whose names do not appear on class rosters. Non-compliance may be investigated under relevant University of Calgary conduct policies (e.g. [Student Non-Academic Misconduct Policy](#)). If participants have difficulties complying with this requirement, they should email the instructor of the class explaining why, so the instructor may consider whether to grant an exception, and on what terms. For more information on how to get the most out of your zoom sessions visit:

<https://elearn.ucalgary.ca/guidelines-for-zoom/>

If you are unable to attend a Zoom session, please contact your instructor in advance to arrange an alternative activity for the missed session (e.g., to review the recorded session). Please be prepared, as best as you are able, to join class in a quiet space that will allow you to be fully present and engaged in Zoom sessions. Students will be advised by their instructor when they are expected to turn on their webcam (for group work, presentations, etc.).

The instructor may record online Zoom class sessions for the purposes of supporting student learning in this class – such as making the recording available for review of the session or for students who miss a session. Students will be advised before the instructor initiates a recording of a Zoom session. These recordings will be used to support student learning only and will not be shared or used for any other purpose.

## Special Budgetary Requirements

Nothing required for the class

## University of Calgary Policies and Supports

**COVID-19 PROCEDURE FOR SICK STUDENTS:** <https://www.ucalgary.ca/risk/covid-19-procedure-for-sick-students>

**UNIVERSITY OF CALGARY COVID-19 UPDATES:** <https://www.ucalgary.ca/risk/emergency-management/covid-19-response>

### **ACADEMIC ACCOMMODATION**

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/university-policies-procedures/accommodation-students-disabilities-procedure>

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).

SAS 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/](http://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 Procedure please visit:

<https://ucalgary.ca/policies/files/policies/student-academic-misconduct-policy.pdf>

<https://ucalgary.ca/policies/files/policies/student-academic-misconduct-procedure.pdf>

Additional information is available on the Academic Integrity Website

at <https://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 ([www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf](http://www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf)) 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/pubs/calendar/current/k.html>).

### **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.

### **FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY**

Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary.

### **SEXUAL 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 violence policy guides us in how we respond to incidents of sexual violence, including supports available to those who have experienced or witnessed sexual violence, or those who are alleged to have committed sexual 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/policies/files/policies/sexual-violence-policy.pdf>

**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://www.ucalgary.ca/pubs/calendar/current/i-3.html>) which describes how to have a grade reappraised. In addition, the student should refer to the SAPL's Procedure for reappraisal of grades

**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