UNIVERSITY OF CALGARY
SCHOOL OF ARCHITECTURE, PLANNING AND LANDSCAPE

Fall 2022

Course Number	ARCH 680.18 L02	**Classroom**	PF 2110
Course Name	Mythical Machines		
Pre/Co-Requisites			
Instructor	Dr Alicia Nahmad Vazquez	**Office Hours/Location**	By appointment physical (office) & digital (zoom, and other platforms)
	Email: alicia.nahmadvazquez@ucalgary.ca	**Phone:**	
Class Dates	Mandatory in person and/or synchronous zoom meetings: Monday , 09:00 am to 12.00 pm Sept 6th – November 28th. Sessions will be in person at PF 2110 A hybrid digital / physical format can be considered based on the evolution of the COVID situation in the region.		
Instructor Email Policy	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 48 hours.		
Name and Email of Teaching Assistant(s)			

Course Description

AIMS & RATIONALE

How do design and fabrication technologies impact architectural conceptualization and execution? What materials, processes and techniques have changed the way we understand and relate to architecture? This seminar provides an introduction and necessary historical and theoretical background to machine thinking, and the areas of computational tools, design and fabrication technologies applied to design and their methodological approach.

The seminar is an introduction to the most important overall topics related to design frameworks enabled by machines and technologies; for example, topics like software design tools; digital design and fabrication; theories of the digital; machines and collective intelligence; machines and the body; cognitive aspects of design computing systems; history of digital tools for design and fabrication; participatory design technologies; and specific design techniques related to them, such as parametric design thinking or scripting. These topics are presented and discussed in weekly class sessions, intended to provide a thorough theoretical and historical background to other studios and electives on the programme and a basis for digital development and design thinking.

COMPOSITION
Mythical machines is delivered in the form of weekly three-hour class sessions, during which the students make presentations on a weekly topic followed by a moderated discussion guided by the instructor based on the course readings. The initial session will be done by the instructor and will present a comprehensive overview of the course, aims, topics and rationale. Each following weekly session will be focused on a single issue related to digital and physical machines in architecture, the topics are related to the design approach, design conceptualisation, design systems and physical manifestation. During the sessions we will explore a number of questions such as: How do we understand and classify technology? How does science impact architecture and the convoluted relationship between architecture and science? What considerations should we be taking as the architect becomes a maker? How does technology changes architectural design thinking beyond the tools? What is the relationship between tools and digital design thinking?

The seminar will finish by holding a fictitious conference on digital machines in architecture that takes place in 2036, fourteen years for now. Student are expected to submit a paper to the conference (max 2,500 words) and develop a presentation, posters or plan on a panel and keynote for the event.

Fourteen years are far enough to be speculative and think about future machines, but close enough to keep it realistic and understand that things might not be dramatically different (i.e falling into science fiction). The conference aims to encourage students to develop their critical thinking toward the future and the influence of digital and physical machines and technologies in architectural design thinking. Students have to look at the past and speculate on a near future

Course Hours: 3 units

Online Delivery (If applicable)

The class will be delivered in a physical / digital format. Weekly sessions will be physical. Students are expected to engage digitally on the forums and discussions.
Physical sessions will be evaluated weekly based on how things progress and the development of COVID in Alberta. It will also be based on government and university guidelines. Students should be prepared if a requirement emerges to change the classes to a digital (zoom-based) format.

Class material and all the readings will be updated in **D2L for students to read, consult and work asynchronously.**

Course submissions will be through D2L with physical presentations.

If unable to participate live due to unforeseen circumstances, inform the instructor in advance to work out an alternative participation activity.

COVID 19
As face to face activities continue to be disrupted due to the Coronavirus pandemic, the class will be continuously monitored. The physical sessions on Tuesdays will be adjusted depending on how things develop in the university and the city.

You are expected to follow all university regulations when on campus (i.e. mask wearing, etc) . As you know this are unprecedent times and the course will be continuously adjusted to reflect the circumstances. Access to the robotics lab both in the main campus and the CBDL building will be allowed according to university policies. Last year we also discovered valuable online resources that will continue to be used.

Course Learning Outcomes

The outcomes of the elective mythical machines can be broadly described as critical thinking skills related to architecture, in relation to digital design and fabrication tools, materials and design systems.

Students will be expected to:

- Develop their critical insight and their perspectives on issues related to machinic thinking in architectural design and architectural production, and the influence of technology and how it impacts people, society and the built environment.
- Familiarize themselves with seminal and recent publications on critical technology questions
- Analyze the effects of technology through the weekly presentations, and online and in class discussions.
- Contextualize and situate their work in relation to the evolution of the profession.
- Create and produce your own perspective on technology, emerging digital design and fabrication technologies and their impact on the architectural discourse -from conceptualization to execution- and in society.
- Bring material outside the class reader to discuss the class topics
- Contribute to the final conference presentation and development.

The class is setup for students to engage critically and creatively on the topics, and they will be rewarded for that.

Learning Resources

- Pdf version of the required papers and articles will be provided in the course D2L site.
- Books and video material can be consulted on the library. When appropriate links will be provided on D2L or the class real time discussion platform.

Each week there will be readings to complete. They will be listed on the D2L schedule, and the pdf will be either provided or linked. Students are expected to read the required readings and go through the recommended readings. The recommended readings are specifically important if the student is presenting on that session or writing about that topic for their conference presentation.

Students will discuss the readings during the class session and respond to prompts that will be provided each week online (prompt responses are approx. 250 words). Students are expected to provide sources for their responses to the prompt and critical thinking. Opinions without foundation will not get full points.

Technology requirements (D2L etc.): 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;
- Current antivirus and/or firewall software enabled;
- Broadband internet connection
- Student IT Resources

Most current laptops will have a built-in webcam, speaker and microphone.

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
Response to weekly prompts	In this class we want to reward your participation and critical thinking Each week there are readings related to a specific topic and that you are expected to do and	60%	1 to 5

	respond to a weekly prompt. Your response can be: an approx. 250 word direct response to the prompt a link to an interesting article, video or paper related to the topic with a brief (100 word approx.) explanation of why it is relevant or related to the topic. This is a great opportunity to bring your own interests to class. Use this to link to topics and material that you might be reading for your paper and conference presentation. We will discuss the material in class. Weekly responses are going to be marked as completed or not completed and have a value of 5 points each. If completed according to directions, you'll get the full points. Late responses will result in point reductions of 1 point per day late.		
Presentation and guiding the discussion (once alone or in pairs)	Students alone or in pairs - depending on the numbers- will be responsible to	30%	1 to 5

	present one of the weekly topics to the class. During their session they will prepare the presentation, based on the readings and supplemental material, set the key themes for discussion and lead the discussion during the class. They will also help organize the conversation during the session. The weekly prompts and the answers will be used to support the preparation of the material and guiding the class discussion.		
Participation	Be present during the class, be on time and participate on the discussions. Please speak in class whether you are presenting or responding.	10%	1 to 5

Assessment and Evaluation Information

Attendance and Participation Expectations:

Students are expected to attend all classes and participate in the discussions. They should come prepared to the class by doing the readings corresponding to the session.

Guidelines for Submitting Assignments:
Weekly discussion responses to be submitted through D2L. The cut-off for the weekly topic response is **Monday at 6AM**. After this the response will be marked as completed or not completed.
Weekly responses that are late will be marked as not completed.
Weekly responses that are under 250 words or not well structured will loose points

The conference paper will be submitted through D2L. Paper topic and abstract will be discussed and developed during the class.

Presentations will be done in class by a group of students on their assigned topic session.

Final Examinations:
The final conference event will be developed through the class. Students will select the topic of the conference, the keynotes, and the sub-topics. For the conference day, students have to prepare a poster or oral presentation. If guidelines allow, we will invite external guests for our conference. Students will also take roles as conference chairs to introduce the speakers and the different topics.

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

Late Assignments:

Criteria that must be met to pass: All final grades below B- are indicative of failure at the graduate level and cannot be counted toward Faculty of Graduate Studies course requirements.

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)

(for Architecture courses only) CACB Student Performance Criteria

The following CACB Student Performance Criteria will be covered in this course at a primary level (other criteria will be covered at a secondary level): A2: Design Skills; A5: Site Context and Design; D1: Comprehensive Design.

Topic Areas & Detailed Class Schedule

Include information relevant to the class schedule, such as weekly topics, readings, and assignment due dates. For online, remote or blended courses include whether course activities are synchronous (i.e., real-time/Zoom) and asynchronous (i.e., students complete on their own time such as discussion boards, watching videos, etc.). It is recommended that important dates including the first day of classes, holidays, term breaks and last day of classes also be included.

Course Schedule Date	Topic	Assignments/Due Dates
Sept 6 - 9	No Class	
Sept 12 - 16	Introduction, presentation of working method, rationale, aims and history . Intro to conference development, topics and keynotes.	
Sept 19 - 23	**Machinic design operations**	Jassea
Sept 26 - 29	**Machinic Thinking**	Colin
Friday September 30	National Day for Truth and Reconciliation	
Oct 3 - 7	Fall Block Week	
Monday October 10	Thanksgiving Holiday	
Oct 11 - 14	**Machinic Agency**	Jeesie & Colin
Oct 17 - 21	**Distributed Networks**	Ameli & Conor
Oct 24 - 28	**Cybernetics and Architecture**	Amelie
Oct 31 – Nov 4	**Matter & Algorithms**	Connor
Nov 7 – 10	Term Break	

Friday November 11	Remembrance Day	
Nov 14 - 18	**Novel Tectonics**	Gregory
Nov 21 - 25	**Participatory machine Futures**	Gregory
Nov 28 – Dec 2	Final Discussion	
Dec 5 - 7		

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.

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/ .

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) 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