BIG DATA AND PATTERNS OF TRANSFORMATION

EMERGING URBAN TYPOLOGIES

STRATEGIC SPACE
Architecture and Urbanism in an expanded Field

PARAMETRIC PROTOTYPES

NETWORKS AND COUPLED SYSTEMS

GREEN BUILDING TECHNOLOGIES ENERGY CIRCUITS

RECYCLING TERRITORIES ADAPTING SPACES

INTERDISCIPLINARY DESIGN RESEARCH

MATERIAL ECOLOGIES

Title: Strategic Space I Architecture and Urbanism in an Expanded Field
Instructor: Assoc. Prof. Mona El Khafif
Course: M1 692-02 Graduate Studio and Seminar

STRATEGIC SPACE *Architecture and Urbanism in an Expanded Field*

"If one of the greatest responsibilities traditionally placed upon the figure of the architect is the capacity of synthetic action between the conditions of reality and a vision of the world, it is in this sense that prospective recognition of new definitions of our environment acquires special importance, not as a shaping, recreation or reproduction of reality itself, but rather as a prospective reformulating disposition of this reality." [1]

[Manuel Gausa, 2003]

In the 21st century, as stated by Manuel Gausa in *Metaopolis*, advanced architecture moves beyond its traditional assignment of designing objects to yield new territories that define spatial relationships between action and reaction fostered through new emerging technologies, data access and interdisciplinary practices. Located within a blurry landscape of diverse ecologies that range from environmental, economic, technological, social, cultural and political concerns, the architecture of the 21st century will be defined by latent change, evolutionary processes and synergies. According to Gausa, rather being limited to the design of objects, the role of architecture will expand into the field of strategies and processes that are restructuring the city, the territories that it occupies, the networks that circulate through it, the fabric that is generated by it and the interior design we will occupy on a daily basis. As such, the agenda of **advanced architecture** in the 21st century must be to digital society what 20th century **modern architecture** was to industrial society[2].

"To know the nature of things in order to act upon reality. Thus begins architecture…………..."

[Vincente Guallart, 2003]

While these statements argue for a current paradigm shift and predict a dynamic future for our profession, to recognize existing reality and its challenges is critical in order for our investigations to have meaning. While we don't want to reduce architecture as a problem-solving discipline defined by its functional, ecological, material and social implications, it is necessary to establish a larger argument that addresses the occurring paradigm shift, dealing not only with its opportunities, but also its crises and scarcities. Those constrains however should be understood as a chance to create new futures that capitalize on our profession's core abilities.

RAPID GROWTH I SHRINKING CITIES I WASTED LAND

In 1961, Jean Gottmann identified the urbanized northeastern seaboard of the US in his study *Megalopolis*[3] and argued that this region of 30 million inhabitants was the beginning of a new order in the organization of urban territories. While Gottmann initially forecasted an exclusively positive future, he revised his statements in 1975, pointing out that neither governmental institutions nor urban theories were able to handle this form of urban aggregation.[4] In 1998,

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[1] Manuel Gausa, *Architecture*, in The Metapolis Dictionary of Advanced Architecture: City, Technology and Society in the Information Age, M. Gausa, V. Guallart, W. Mueller, F. Soriano, F. Porras, J. Morales, Susanna Cros (cordinator)Actor Publisher, Barcelona, 2003, p. 56
[2] Manuel Gausa, *Architecture*, in The Metapolis Dictionary of Advanced Architecture: City, Technology and Society in the Information Age, M. Gausa, V. Guallart, W. Mueller, F. Soriano, F. Porras, J. Morales, Susanna Cros (cordinator)Actor Publisher, Barcelona, 2003, p. 56
[3] Jean Gottman & August Heckscher, *Megalopolis. The Urbanized Northeastern Seaboard of the United States* Jean Gottmann (Whitefish: Literary Licensing, LLC, 2012).
[4] Richard Lyons, "Jean Gottmann, 78, a Geographer Who Saw a Northeast Megalopolis," *NYTimes.com*, March 2, 1994, http://www.nytimes.com/1994/03/02/obituaries/jean-gottman-78-a-geographer-who-saw-a-northeast-megalopolis.html.

MVRDV published *FARMAX: Excursions on Density,* followed by *MetaCity Datatown* in 1999.[5] Both publications can be understood as an unfolding pragmatism in Dutch architecture, clearly incorporating the limitations of natural resources. As such, the Netherlands articulate a unique case study country: with one of the highest average population densities in the world and half of the state's artificial territory lying around or below sea level, the country embodies an economy of scarcities[6]. The research sets out to discover the prospects for limitations and a world that accepts massiveness and density.

This massive growth is currently occurring in China, where a billion people will migrate within the next decades into cities that don't exist yet. The country is planning on building 400 new urban settlements between 2006 and 2020, increasing the proportion of China's population living in cities to 60%.[7] Some of the new urban settlements, however, remain ghost towns due to unaffordable market rates and unbalanced economies.[8]

Though we are doubtless all familiar with the research addressing the issue of urban sprawl, this topic was re-accelerated by incorporating the prospected global growth as articulated in *The Endless City*[9], published in 2008. The statistics are well communicated: in 2007, for the first time in human history, more than 50% of the earth's population was living in urban areas. The projection is that by 2050 this number will rise to 75%. Further, the world population increased from 2.5 billion in 1950 to an estimated 9.3 billion in 2050.[10] This abstract figure might be better understood in conceivable dimensions: to accommodate this growth, it will be necessary to build a city the size of Seattle every three days.

While we might consider these processes occurring in Western countries "under control," even higher rates of rapid urbanization are happening in the mega cities of economically underdeveloped countries. According to the 2010 FIG report on Rapid Urbanization and Mega Cities,[11] around 70% of current urbanization takes place outside of the formal planning process and 30% of urban populations in developing countries are living in informal settlements. In most of these sprawling informal settlements there is a lack of reliable data or any form of economy that might employ traditional design.

But urban growth will also be juxtaposed by urban shrinkage occurring in the USA, in Russia, South Africa, Europe and even China. Here we are also exposed to the opposite phenomenon of population migration and the production of vacant urban areas. As documented in the *Atlas of Shrinking Cities*[12], in the last 50 years, about 370 cities with more than 100,000 residents have temporarily or lastingly undergone population losses of more than 10%. In extreme cases, the rate of loss reached peaks of up to 90%. The increase in the population of growing cities is higher than the losses of the shrinking cities, however, between 1950 and 2000, the number of shrinking cities has increased by 330%. Thus, despite all the expectations created by the scenarios of constant growth, the number of shrinking cities has increased faster than the number of boomtowns, leaving behind abandoned wastelands: territories of opportunity and reactivation.[13]

[5] Winy Maas, Jacob van Rijs, & Richard Koek, *FARMAX: Excursions on Density* (Rotterdam: nai010, 2002); MVRDV, *Meta City Data Town* (Rotterdam: nai010, 1999).

[6] Ila Berman & Mona El Khafif, *URBANbuild local I global* (Richmond: William Stout, 2009), 348.

[7] Jonathan Woetzel, "Chinese Cities in the Sky." *McKinsey on Society,* http://voices.mckinseyonsociety.com/chinas-cities-in-the-sky/

[8] http://www.news.com.au/business/china-building-mega-cities-but-they-remain-empty-sparking-fears-of-housing-bubble-burst

[9] Ricky Brudett & Dyan Sudjic, *The Endless City. The Urban Age Project by the London School of Economics and Deutsche Bank's Alfred Herrhausen Society* (London: Phaidon, 2008).

[10] US Census Bureau, *Population Projection 2012*, 2012, www.npg.org/facts/world-pop-year.htm.

[11] Research Study by FIG Commission 3, *Rapid Urbanization and Mega Cities: The Need for Spatial Information Management,* (Copenhagen: The International Federation of Surveyors, 2010).

[12] Elke Beyer, Anke Hagemann, Tim Rieniets, Philip Oswalt, Atlas of Shrinking Cities, Hatje Cantz, 2006

[13] http://www.shrinkingcities.com/globaler_kontext.0.html

RESOURCE SHORTAGE I UNSTABLE ECONOMIES I LACK OF AGENCY

As Alex Steffen calls out, scientists can measure the current crisis. The planet's biocapacity, which consists of nine major natural systems, is pushed to the edge of what is necessary to sustain life as we know it. Four of those systems – greenhouse gas concentrations in the atmosphere; freshwater consumption; deforestation; and terrestrial biodiversity – will be immensely affected by the shape that urban growth takes in the next 50 years.[14] Living on a globe and therefore being contained in a closed system also calls for local and global thinking. The rapid extension of urban footprints on the scale of Megaregions; or the continuing development of semi-urban Hinterlands will stress beyond the equilibrium of the planet's biocapacity.

In addition the upcoming surge of urban growth, shrinkage, and wasteland production will be challenged by global climate change, extreme weather conditions, water and energy shortage, economic and social instability, aging infrastructural systems lacking any kind of resilience, and an absence of agency to actually alter the patterns of development. Cities and governments, which continue to rely on traditional processes of planning, zoning codes and other urban development tools, are liable to lose their economical and administrative power to drive agendas for development.

Who are the agents of change and who might be a future partner for the implementation of architecture? These questions will inform the future of the design process. The former ecologies of the 20th century will be in need of new relationships that – as Gausa argued – are a *"prospective reformulating disposition of this reality".*

THESIS MANIFESTOS

The themes investigated in this M1 studio are not defined by a specific topic or site, but will be provoked by the described paradigm shift unfolding within the next decades. Following is a suggestion of categories that are related to the challenges of the 21st century. These themes are neither understood as a final list nor are they meant to frame the freedom for students to develop their independent thesis. Yet the list hopes to encourage students to position their thesis work within the described paradigm shift. It is the intention of the class to extend the topics and to develop a manifesto that articulates an expanded field for architecture and urbanism.

As Bruce Mau states – this massive change will ask designers and architects to expand their professional practice and to take advantage. For Mau, the future is *"not about the world of design, but about the design of this* [new] *world"*[15].
The class intends to establish a set of critical investigations dedicated to the development of emerging strategies.

1. RECYCLING TERRITORIES ADAPTING SPACES
2. NETWORKS AND COUPLED SYSTEMS
3. PARAMETRIC PROTOTYPES
4. BIG DATA AND PATTERNS OF TRANSFORMATION
5. INTERDISCIPLINARY DESIGN RESEARCH
6. MATERIAL ECOLOGIES
7. GREEN BUILDING TECHNOLOGIES ENERGY CIRCUITS
8. EMERGING URBAN TYPOLOGIES

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[14] *"World Changing. A User Guide for the 21st Century"*, Alex Steffens, Abrams Publisher New York, 2011, p. 17
[15] Bruce Mau and the Institute without Boundaries, Massive Change, Phaidon Publisher, 2004

SEMESTER Schedule Fall 2013:

MONTH	WEEK	TUESDAY	THURSDAY
SPTEMBER	1	10/9 **S1 AFFILIATIONS// THESIS CLOUD** Assignment A1 Presentation of 10 min Thesis Abstract	12/9 **DESK CRITS**
	2	17/9 Group Review and Desk Crits	19/9 **DESK CRITS**
	3	24/9 **S2 PRECEDENTS// MANIPULATION** Assignment A2, Review A1	26/9 **DESK CRITS**
OCTOBER	4	01/10 Group Review and Desk Crits	03/10 **L1 GUEST LECTURE** Desk Crits
	5	08/10 **S3 METHOD// OPERATIONS** Assignment A3, Review A2	10/10 **DESK CRITS**
	6	15/10 Group Review and Desk Crits	17/10 **DESK CRITS**
	7	22/10 **S4 SITE [S] // SOFTWARE TOOLS** **W1 GIS WORKSHOP** Assignment A4, Review A3	24/10 **ACADIA CONFERENCE** http://2013.acadia.org
	8	29/10 **DESK CRITS**	31/10 **DESK CRITS** Group Review
NOVEMBER	9	05/11 **W2 SOFTWARE STRATEGIES FOR PARAMETRIC URBANISM**	05/11 **W2 WORKSHOP DAY 2**
	10	12/11 **S5a STRATEGIES//PROGRAM** Assignment A5, Review A4	14/11 **DESK CRITS**
	11	19/11 **DESK CRITS**	21/11 **L2 GUEST LECTURE** Desk Crits
	12	26/11 **S5b APPLICATION// TEST DRIVE** Desk Crits	28/11 **DESK CRITS**
DECEMBER	13	03/12 **S6 ARGUMENT//THESIS OUTLINE** Assignment A6, Review A5	05/12 **DESK CRITS** *Exams Start*
	14	10/12 **DESK CRITS**	12/12 **DESK CRITS**
	15	17/12 **Final Review THESIS TALKS** Presentation with external Guests	19/12 **Digital Submission**

The schedule is open for adjustments. Please see schedule announced at the beginning of the semester and in assignments. Changes will be discussed during class time.
Further information: http://gradcalendar.uwaterloo.ca/page/GSO-Academic-Deadlines-and-Events

M1 THESIS LAB OBJECTIVES AND STRUCTURE

M1 Motivation and Thesis Context//
This M1 studio seminar will guide students in the development of an individualized research topic as a preparation for their design thesis in architecture. The course will use written, verbal and visual presentation to develop a critical argument that sets the stage for the design research project culminating in the production of a thesis outline at the end of the semester.
The course's goals and learning objectives will be supported by an assignment structure and can be described as:

• The formulation of a focused research agenda and questions within the selected topic
• The development of an intellectual and critical method to achieve the design proposal
• An understanding of ideas and strategies contained in critical architectural precedents
• The development of expertise in history and theory published on the given topic
• The development of an original thesis

M1 Course Structure//
The M1 studio will be taught 2 times a week on Tuesdays and Thursdays from 9:30 am to 6:30 pm. Within the period of 15 weeks students will work on 7 sequentially titled ['S1' to 'S7'] sequences that will operate as a methodical framework to achieve the class objectives and the development of an independent thesis topic. Each sequence is accompanied by a 2 or 3 week assignment that allow students to work on their own topic while following a methodical roadmap. Each assignment is introduced through a lecture and will be discussed as a group. Individual desk crits and group discussions will provide feedback for students to develop their individual projects. The results of the assignments will be discussed during review sessions that are scheduled for Tuesdays. During the semester the course will be enriched by 2 guest lectures and 2 software workshops. In addition, students will be able to participate in the ACADIA conference, which will offer an excellent opportunity to be exposed to research presentations and experts in the field.

The last sequence of the semester [S7] will conclude with a public event titled **'Thesis Talks'**. Students will give a 20 minute presentation on their thesis research to colleagues, professors and external guests. At this stage it will be critical to articulate a clear and focused thesis question, a summary of the research demonstrating a level of expertise on the topic, an analysis of the findings, an articulation of first design implementations, and a complete outline of the individual thesis syllabus.

M1 Assignment Structure//
Throughout the semester, students will be exposed to 6 sequences and assignments that will help to develop a critical body of work for the final thesis outline.

Sequence S1_AFFILIATIONS// THESIS CLOUD
An architectural design thesis requires students to formulate a tightly focused research agenda within the discipline of architecture and to test this agenda through a specific design proposal in a second stage that follows the M1 studio. Though the thesis will ultimately employ the tools of architectural production and will be centered on a narrowly focused question founded on an explicit body of research, the first assignment in S1 will ask students to embed their initial thesis thoughts into a larger context. Allow yourself to open your mind and diversify your interests, spread you net and capture a wide range of sources within and outside the conventional architectural discourse. Create a thesis cloud that will offer a landscape of ideas, thoughts, concepts, precedents, theories and affiliations from within and outside of architecture. *Hand-out Assignment A1*

Sequence S2_PRECEDENTS// MANIPULATION
Your thesis project will not stand alone and you should learn from precedents that need to be carefully analyzed. Who worked on similar topics? What are the critical projects that had been tested either realized or through virtual contributions? What are the precedents you need to understand in order to contribute to the broader discussion about your chosen topic in the discipline of architecture? And finally, what are potential manipulations and extractions that might be useful for your own thesis approach? *Hand-out Assignment A2*

Sequence S3_METHODS//OPERATIONS
Given these precedents and your initial research, what are the operational methods and techniques of exploration best suited for your thesis investigation? What are the right tools for your exploration and how can you develop these methods extracted from precedents for your own purposes? The development of your design method will be essential to your thesis project and distinguishes a thesis from a studio project. We will begin with this investigation in sequence 3, but expect that it will be redefined and developed throughout sequences 4 through 6, incorporating site, context, data and program. *Hand-out Assignment A3*

Sequence S4_SITE[S] // SOFTWARE TOOLS AND ANALYSIS
Though your site isn't defined yet and you might work on multiple sites, we will start to investigate and analyze the physical environment where your project might be located. During this sequence, you will be exposed to two software tools that will help to compile site- and context-relevant data and to analyze those in support of your project [see annex workshops]. The assignment will consist of multiple components including the development of a digital archive, analytical maps, diagrams, and datascapes. *Hand-out Assignment A4*

Sequence S5a_STRATEGIES// PROGRAM
The site investigation will allow for an understanding and analysis of the context and potential applications of your thesis project. As such, the application of your project might be much broader than the final -probably single- site you will select for the next phase. During sequence 5, we will work on opportunity maps and program outlines. *Hand-out Assignment A5a*

Sequence S5b_APPLICATION// TEST DRIVE
The first draft of your thesis application will be a test drive that will help you to jump into the cold water. This first draft will not be the outline of your final thesis project, but will serve as an iteration. You will work on a 2 week design assignment that moves your work from "research" to "design". The main purpose of assignment A6 is to operate as a test drive whose critique will help to fine-tune the requested thesis statement. *Hand-out Assignment A5b*

Sequence S6_ARGUMENT// THESIS OUTLINE
The final assignment will ask you to compile all research into a deeply grounded thesis outline. This outline articulates a clear thesis statement including your argument and a detailed plan that describes how you are planning to continue working on your project during the next phase. This will operate as your self-generated syllabus and will help you to structure the independent design work that will follow in the next months. *Hand-out Assignment A6*

The phases shown in this outline will be updated by formal assignments issued during the term. Details shown here may change according to the development over the semester and students' needs. Students will be asked to submit their work a night before the review via "LEARN" or "dropbox" online file space that can be used for digital hand-ins.

M1 Participation and Students' Involvement//
Students will be asked to continually participate in discussions throughout the semester. Readings and in-class brainstorming sessions will allow students to engage directly with the content. In addition, students are invited to further develop the ThesisLab Manifesto as briefly described in the introduction. This umbrella Manifesto will unfold over the duration of the semester under the guidance of the instructor and in cooperation with peers in the section.

The two guest lectures L1 and L2 are currently scheduled within the sequence S2 Precedents// Manipulation and S5 Strategies// Operations. Since experts visiting the class to present their work are tremendous resources for your research, students are invited to select the guest speakers themselves. This process will be discussed at the beginning of the semester and will allow students to actively participate in the shaping of the course and to start networking. The costs for stipends and travel expenses will be covered by the university and will be open to guests coming from Ontario.

M1 Documentation and Learning Resources//
The class will be organized through the UWThesisLab13 Wordpress blog. Each student is likewise asked to organize his/her own blog in order to communicate their research with the broader public. This blog will be understood as a growing entity and resource that will help to structure the outline of students' respective thesis projects.
In addition, you will be asked to complete the semester with a thesis research book, printed through Lulu Print. The class will have access to a template [US letter] that can be manipulated for personal purposes. However, the format of the final book will be limited to 11" x 8.5" portrait. This book will include all findings and assignments of the semester and will operate as your individual "thesis guide", supporting the next phase of your project. At the end of the thesis completion we intent to publish all final thesis work in form of a thesis publication printed with Riverside Press in Waterloo.

M1 Grading//
The semester consists of brief two – three week exercises that ask students to probe their thesis topic through the lens of specific research areas and methods. To successfully complete the class each assignment needs to be accomplished and presented in time. Progress, participation and collaboration will effect the grades through out the semester. The assignments will be graded as follow:
A1, A2, A3 [30%]
A4 and workshop participation [20%]
A5 a and A5b [20%]
A6 [30%]

BIBLIOGRAPHY
Individual research bibliographies are determined by each student and are understood as a "growing" database that is collected over the duration of the semester and they will contribute to the final thesis layout and research agenda. Under the guidance of the instructor, students will build their bibliography, which is expected to consist of books, essays, documentaries, interviews and online resources. Students are asked to visit the library on a regular basis and to use use online archives such as http://www.jstor.org for scholarly research.

Readings will also be assigned during the semester. Among these will be:

• Manuel Gausa, *Dynamic Time – [in]formal order: [un]disciplined trajectories,* in Quaderns 222: Elastic Time by Actar Editors, Barcelona 1999
• Stan Allen, *Mapping the Unmappable. On Notation,* in Practice: Architecture and Representation, NL, 2000
• Manuel De Landa, *"Uniformity and Variability. An Essay in The Philosophy of Matter,"* http://www.t0.or.at/delanda/
• Sanford Kwinter, "Landscapes of Change", ed. Umberto Boccioni, in Assemblage, No. 19, pp. 50-65, MIT Press, 1992
• Antoine Picon, *Architecture, Science, Technology and the Virtual Realm*, in Architecture and Sciences: Exchanging Metaphors, ed. Antoine Picon + Alessandra Ponte PAPress, 2003, p. 292-313
• Ila Berman and Ed Mitchell [editors], *New Constellations / New Ecologies*, Proceedings ACSA Conference 101, San Francisco, 2013

SEMESTER WORKSHOP I // GIS Site Analysis [Mona El Khafif]

Mapping the Future with Big Data
"If we can avoid the temptation to view any map as complete, if we can remind ourselves not to simply layer a map of housing subsidies on top of the crime map and call it a day, if we can find the energy to instead go one map further, and then another, and then another, then perhaps GIS will live up to its fullest potential. It will become a tool to take knowledge that's been accumulated across disciplines and recombine it in a way that's useful to an ever-growing sphere of people. Uniting the world and all the data we've gathered about it through a shared geographical understanding, and then creating maps that go backward and forward in time: This is the promise Dangermond sees in the future of ESRI."

[Patrick Tucker, The Futurist, Aug 2013]

During this workshop session, students will be introduced to the general applications of ESRI 's mapping software ArcGIS, and explore this software as a tool for collecting digital geospatial data and the analysis of complex urban environments. Geographic Information Systems (GIS) compatible shapefiles, geodatabases and raster imagery are accessible in diverse online data archives. The workshop will teach methods for collecting and organizing a variety of geospatial data in order to build a GIS archive. Each student will be able to compile datasets related to his or her site utilizing publicly available databases. In addition, students will learn methods for building their own datasets. Participants will learn to activate and use the embedded datasets for urban network analysis and Census data analysis. In the second part of the workshop, students will explore the most commonly used tools in ArcGIS toolbox in order to identify the tools of interest to architects, particularly those suited to understanding and exploring the natural and urban environment. Students will additionally explore the ArcGIS 3D Analyst extension that facilitates the display and analysis of terrain and surface data using ArcScene. Users can query the attributes of a surface (e.g. elevation, slope) and create contour lines of any given terrain on the globe. Further, students will explore ESRI's newest product CityEngine.

Software:
The class will use ESRI ArcGIS Desktop 10 with extensions. The software runs on PCs, or on Macs possessing a Windows XP, Windows Vista, or Windows 7 partition. A one year student edition of is available for students in the class to install GIS on their computers. Additionally, 60 day trial versions are available on the ESRI website.

Links:
ESRI Canada http://www.esri.ca/en/content/student-licenses
ESRI CityEngine http://www.esri.com/apps/products/cityengine2/index.cfm

SEMESTER WORKSHOP II //
Software Strategies for Parametric Urban Design [Benjamin Golder]
GIS software offers architects and urban designers a rich toolkit for spatial analysis, but the associative data used in GIS shapefiles is typically lost when moving geospatial data into 3D modeling environments primarily used by architects. In this workshop, students will learn methods of moving geospatial data into 3D modeling software while maintaining the connections between geometry and associative data, thus allowing for richer explorations of geospatial data during the design process. The workshop will demonstrate workflows using GIS, Rhino, Grasshopper, and basic Python. Students will use open-source Finches scripts created for the Local Code Project at UC Berkeley, along with Grasshopper Python scripts for handling associative data.

Links:
Grasshopper http://www.grasshopper3d.com/page/download-1
Plug in for Grasshopper 3D https://github.com/localcode/finches

ANNEX// GOVERNING DETAILS

Class Agenda
Welcome to the M1 602-02 Graduate Studio and Seminar this fall semester. Please read the syllabus and the information below carefully. The preparation of your thesis research is a unique opportunity to conduct your own research and to position yourself within the discipline. As such the M1 studio requests not only requirements defined by the school policy but tries to prepare students for their professional life. Commitment to your work, collaboration among the group, self-motivation, participation and attendance in time will be critical.
If you run into problems during the semester or if you are concerned about your progress, please contact me at any time via email or request a meeting during the class. This class is meant to provide all support you need to develop your thesis outline and research agenda. However deadlines are critical tasks to take care of in our profession. Successful time management will be an important skill for your success.

In the moment when you step out of the academic environment you will need to offer the professional world not only a strong portfolio and good grades. In your future professional life it will be most essential to also understand the opportunities and responsibilities of our profession. The next generation of architects and designers will participate in an important paradigm shift. Use this class to strengthen your position and to develop your agenda.

Class Meetings
Lectures and class meetings will be held throughout the term at the beginning of studio days and at the end. Be prepared to meet every studio day promptly at 9:30 a.m. Please be punctual. Specific dates will be established as the term evolves, responding to class progress. Check your email late evening on the day before or early morning on studio days for updates on meeting times and locations.

Maintain the Studio
Cooperate in maintaining the studio space. If you play audio material, use headphones.

Attend Lectures and Work In Studio
Attend all lectures. Work in studio on studio days. Be in full attendance in studio from 9:30-12 a.m. and 1- 6 p.m. on studio days. If you are planning to visit the library or conduct off site research, please talk to your instructor.

Complete all parts of the work; submit your work on time
All assigned parts of the work must be completed. Punctual completion is required. Grade penalties will be applied to late submissions and chronic lateness may result in disciplinary review including refusal of acceptance. Late submissions must be accompanied by formal transmittal indicating reason for lateness. For submissions administered with evening deadlines, penalties would be assessed at 5% up to midnight, and 5% next day and each day afterward. 'Days' begin at midnight each day, and include weekends and holidays.

Accomodation for illness; not for travel
If you need to apply for accommodation of lateness or absence due for illness, make a formal application by using 'Verification of Illness' [VIF] forms or counselling letters, filed with the Architecture Office. Student travel plans are not considered acceptable grounds for granting alternative reviews and submission times.

Academic Integrity
In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. A student is expected to know what constitutes academic integrity to avoid committing an academic offence, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences

[e.g., plagiarism, cheating] or about "rules" for group work/collaboration should seek guidance from the course instructor, academic advisor, or the undergraduate Associate Director. For information on categories of offences and types of penalties, students should refer to Policy 71, Student Discipline'. For typical penalties check Guidelines for the Assessment of Penalties. Note: "Plagiarism, which is the act of presenting the ideas, words or other intellectual property of another as one's own. The use of other people's work must be properly acknowledged and referenced […] The properly acknowledged use of sources is an accepted and important part of scholarship. Use of such material without complete and unambiguous acknowledgement, however, is an offence under this policy. "

References
www.uwaterloo.ca/academicintegrity/
www.adm.uwaterloo.ca/infosec/Policies/policy71.htm.
www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm.

Grievance
A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70, Student Petitions and Grievances, Section 4, www.adm.uwaterloo.ca/infosec/Policies/policy70.htm. When in doubt please contact the department's administrative assistant who may provide further assistance.

Appeals
A decision made or penalty imposed under Policy 70 [Student Petitions and Grievances] [other than a petition] or Policy 71 [Student Discipline] may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72 [Student Appeals] www.adm.uwaterloo.ca/infosec/Policies/policy72.htm.

Students with Disabilities
The Office for Persons with Disabilities [OPD], located in Needles Hall, Room 1132, collaborates with academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the OPD at the beginning of each academic term.