



Master en Architecture

Semester 1

	Lecture (UE)	Exercise (UE)	ECTS
Moodle information session for MARCH sem1			0
Moodle information session for MARCH sem1 (Optional)	2		0
Design Studio semester I			8
MARCH Design Studio semester I		110	8
Design Studio semester I			8
MARCH Rhino workshop	16		0
Design Studio semester I			8
MARCH Laser cutter & 3D printer Workshop	20		0
Design Studio semester I			8
MARCH GIS Workshop	20		0
Architecture I			5
MARCH Research Methods in Architecture	18		3
MARCH Seminar on Representation	24		3
European Urbanisation I			4
18-12 Cities, Masterplanning and Urban Governance	30		4
Globalisation			8
MARCH The Politics of Architecture	21		4
MARCH From Land to LAND. Critical Spatial Practices in the Digital Domain	24		4
Elective courses			4
04-73 Global Environmental Change in the Anthropocene (Optional)	24		4
01-11 - Urban and Spatial Planning Theory and Concepts (Optional)	24		4



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	Lecture (UE)	Exercice (UE)	ECTS
International Development, Sustainability and Policy Coherence (Optional)	30		4

Semester 2

	Lecture (UE)	Exercice (UE)	ECTS
MARCH Design with Integrated Disciplines II			12
MARCH Design with Integrated Disciplines II		180	12
MARCH Design Studio II Individual work		0	0
MARCH Architecture II			9
MARCH Histories of Urbanism, Gender & Urbanization	30		5
MARCH Smart and circular cities	24		4
MARCH European Urbanisation II			9
MARCH Urban and Landscape Design within Europe	30		5
MARCH Special Topics in the Architectural History of the 20th Century (Optional)	30		4
09-22 Socio-Economic Development Trends in Europe (Optional)	30		4
Transport Systems Analysis (Optional)	45		4

Semester 3

	Lecture (UE)	Exercice (UE)	ECTS
Design Studio Semester III			12
MARCH Design Studio semester III		160	12



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	Lecture (UE)	Exercice (UE)	ECTS
Architecture III			11
MARCH Seminar Communicating Architecture	21		3
Steel & Composite Structures 1 – High Rise Buildings	45		5
MARCH Visual and Cultural Studies	18		3
European Urbanisation III			3
MARCH Comparative analysis: laws, regulations, norms	21		3
Seminars III			4
MARCH Seminar on Project Management	30		4

Semester 4

	Lecture (UE)	Exercice (UE)	ECTS
MARCH Design Studio - Master Thesis			30
MARCH Design Studio - Final Master Thesis		180	30
MARCH Design Studio - MT Supervision		40	0

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Semester 1

Moodle information session for MARCH sem1

Module:	Moodle information session for MARCH sem1 (Semester 1)
ECTS:	0
Description:	This information session will take place on the webex platform and will introduce semester 1 students of the master in architecture to the UL teaching platform Moodle. more details to follow soon.
Language:	Anglais
Mandatory:	Non
Professor:	PARNIAN Shahed

MARCH Design Studio semester I

Module:	Design Studio semester I (Semester 1)
ECTS:	8
Objective:	<p>Students of DS1 will be confronted with a challenging exercise of research by design, analytical data interpretation, empathy and environmental awareness.</p> <p>Dealing with the flooding events that occurred in July 2021 at the Ahr basin in Germany, they will explore ways of approaching the flash flooding that hit the valley, first through an exploration of media communications and all its biases. Then being aware of the politics of the aftermath and the emotional links stressed by a cyclical natural event which might be worsened by a concatenation of unfortunate circumstances, and the result of soil management in the surroundings.</p> <p>The studio will give the opportunity to test how architecture skills, tools and vocabulary can be put in service to read and understand environmental dynamics and their unexpected consequences. By mapping the aftermath territory and the social infrastructure that is still struggling to recover from the flooding events, the students will build a different narrative of recovery: Flooding stories, solidarity links, historical vineyard activities, and the politics of the aftermath, all helping to shape what could be an entropic-conscious design response that brings care into the notion of resilience.</p>

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Description:

Context

The night of July 14th 2021, the Ahr river, a left tributary of the Rhine, swallowed towns and vineyards around, rampaging the towns in the valley and finding in its path surprised inhabitants that despite being used to cyclical floods, had ever faced such an extreme situation in their lives. It's always after the shock that we take the time to think about the decisions we take, on the ways we live and how we adapt to the surrounding conditions. The phenomena and its consequences can be approached from several scale levels.

First, we have the environmental general picture that once more confirms the result of climate change and how it now affects with unusual virulence, geographic spots in Western countries, usually oblivious to the harshness of extreme climatic phenomena. At a regional scale, there is the question of urban planning and its relationship to the environment, including the anticipation of possible risks due to the implantation. In this regard, once again, there are many tragic lessons drawn from the global south. Fortunately, today we have technological tools that allow us to read patterns that help anticipate these events.

Besides the unavoidable consequences driven by natural events, there are arguments questioning the efficiency of emergency systems designed to warn people of reacting timely to the floods. We also have the calls of attention to the consequences of intense cultivation practices, fostered by an economic and tourist activity standing out as a characteristic of the region, and that might be affecting the soil permeability.

Afterward, there is the town planning scale, and the series of human-soil relations. There are some authors, like María Puig de la Bellacasa that postulates the idea of soils as "living organisms consisting of a multispecies community of biota". According to this, we humans are nothing more than part of soil communities. From this approach it can be outlined the possibility of progressive urban configurations for the expected reconstruction tasks, which might consider flexible adaptations to the dynamics of the river and its

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meanders, the economy of the vineyards on slopes, and the touristic rocky landscape of the gorge in the Ahr Hills. The next level would be technical response to anticipate and efficiently respond to violent climate consequences. Transversal porous foundations, slop pavements that allow soil infiltration to drain the streams, efficient practicable roofs, and similar strategies to be explored, and tested in simulated environments. Finally, there is the emotional dimension operating at the scale of human relationships, that were stressed and put to test the night of the flooding and its aftermath. Surviving strategies and networks of care and solidarity that are helping to heal the emotional shock caused by the loss of human lives, but that also might help to unveil how ideological biases and political activation take advantage and infiltrate popular imaginaries after the shock.

Language:	Anglais
Mandatory:	Oui
Evaluation:	50% participation in the studio, 50% final project presentation.
Professor:	REYES NÁJERA César, HERTWECK Florian, MIESEN Markus

MARCH Rhino workshop

Module:	Design Studio semester I (Semester 1)
ECTS:	0
Objective:	The course offers an introduction to the Rhino 3D, with emphasis on workflows for three-dimensional (3D) modelling using Rhino commands. The course will cover basic 2d drawing, tracing and drafting techniques and their application to creating 3d form and surfacing. Additionally, the course will offer an introduction to Rhino grasshopper and parametric design.
Description:	Course content: <ul style="list-style-type: none">• Introduction to the interface and navigation of Rhino 3D• Drawing, creating and editing geometry using curves, arcs and using 2D Rhino commands• Methods of generating 3D geometry and editing tools• Rhino grasshopper and parametric design
Language:	Anglais
Mandatory:	Oui



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Professor: DAUWE Simon

MARCH Laser cutter & 3D printer Workshop

Module: Design Studio semester I (Semester 1)

ECTS: 0

Description: This workshop is an introduction to the safe operation of the laser cutter and 3D printer. The students will learn:

- the basic working principles behind both machines
- the workflow from importing a design from an CAD software to the final piece.
- the hazards, general lab rules and first aid procedures.

Language: Anglais

Mandatory: Oui

Professor: STEMPER André

MARCH GIS Workshop

Module: Design Studio semester I (Semester 1)

ECTS: 0

Objective: Course content:

- Introduction to ArcGIS. Basic concepts
- Operation with the table of Attributes.
- Editing layers
- GIS common files and datasets
- Spatial data sources, projections and Coordinate Systems
- Designing and exporting maps
- Vector tools
- Spatial selection and selection according to Attributes
- Extract and proximity tools
- Aggregating data to customized grids and meshes
- Raster tools
- Representing topography. Digital Elevation Models and surface analysis
- Density maps
- Interpolation maps

Description: The course offers an introduction to Geographic Information systems using the ESRI Arcmap software package. The course is specifically designed for Architecture students and aims to introduce them to basic concepts, methodologies and tools in geospatial analysis in order to better inform spatial decision making in their design studio course.

Language: Anglais



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Mandatory: Oui
Professor: ROMANILLOS ARROYO Gustavo

MARCH Research Methods in Architecture

Module: Architecture I (Semester 1)

ECTS: 3

Description: Students will be introduced to various qualitative research methods in architecture and urbanism and the course will give an overview of research tools and techniques for students on the Master level. These techniques include, for example, historical, archival, ethnographical, experimental, survey, mapping, statistical, and qualitative analysis methods.

In a workshop format, students will choose the subject of a paper which they have to write, develop an argument and comment upon work of fellow students.

Students will learn

- how to compose a bibliography;
- how to deal with a disciplinary and interdisciplinary corpus of sources and references, according to their research subject;
- how to develop a research question and how to construct a critical reflexion and a theoretical work responding to this question.
- how to integrate design components and graphic analysis in their research;
- how to represent and edit architectural research.

The course has several components: lectures, discussions, and a written research report or paper. Class sessions will consist of an introduction to a variety of research techniques, lectures, discussions, and conversations about the paper.

The course takes place on Thursday morning (8:45-11:15), once every two weeks on the following dates: 30 September, 14 October, 28 October, 11 November, 25 November, 9 December.

Language: Anglais

Mandatory: Oui

Evaluation: 50 % participation in the seminar and 50 % paper.

Position paper based upon research that is performed in the framework of this course and its lectures: essay of ca. 1000 words, written according to scientific standards (i.c. including footnotes and references). Submission deadline of the paper: tbc

Professor: PELEMAN David

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MARCH Seminar on Representation

Module: Architecture I (Semester 1)

ECTS: 3

Description: Students will be introduced to the notion of representation in architecture. The seminar aims at offering a basic knowledge on the origins of architecture and landscape representation and how it developed into the realm of social and urban fiction. Students will get the opportunity to analyse different moviemakers in film history by observing the relationship between architecture and fiction. The course will emphasize the notion of collective fiction including architecture as a structural component within a commonly shared narrative, influencing the real world.

Students should either improve or test ways of creating their own fiction in a small group based on a real site in Luxembourg. The representational means are an important part of this seminar. Students should develop their graphic and representational skills in order to tell their collectively elaborated narrative. The site will be a forest in Luxembourg and can be chosen by the group. The forest should be put in relationship with past, existing or future developments.

01/10 Representation as a way to include architecture into urban and social fictions (landscape painting a.o.)

Introduction to the seminar, brief for the seminar deliverables

PLACE : uni.lu in Belval MSA (check screens at the entrance)

08/10 Paul Lesch, Filmhistorian, directeur CNA :

https://www.fr.uni.lu/recherche/flshase/identites_politiques_societes_espaces_ipse/stamvrdvff/paul_lesch

PLACE : CNA Dudelange 1B, rue du Centenaire (espace cinema)

15/10 Francesco Jodice, photographer, artist

followed by group presentations (5-10 minutes each) and a discussion)

webex

22/10 Frederic Zeimet, moviemaker, scriptwriter

followed by group presentations (5-10 minutes each) and a discussion

PLACE : uni – MSA (check screens at the entrance)

29/10 Studying the work of a moviemaker (free choice)

Session 1: Presentations by students in groups – 20min presentation and 10 minutes feed-back.
MSA (check screens at the entrance)



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04/11 OFF

12/11 Session 2: Presentations by students in groups

PLACE : uni.lu Belval MSA (check screens at the entrance)

19/11 Session 3: Presentations by students in groups

PLACE : uni.lu in Belval MSA (check screens at the entrance)

26/11 Final presentations by students in groups – 20min presentation and 10 minutes feed-back.

PLACE : uni.lu in Belval MSA (check screen at the entrance)

Language: Anglais

Mandatory: Oui

Evaluation: **Assignment:**

Students will prepare in groups a collective fiction on a particular site, a forest, by means of drawing, photomontage, 3D renderings, models... and present their approach at the end of the course.

Rating: 50 % participation in the seminar, 50 % final presentation

Deliverables/Homework

08/10 : View a movie and choose among:

Paul Wegener and Carl Boese, The Golem

Friedrich Wilhelm Murnau, Nosferatu

Fritz Lang, Metropolis

Arthur Robisons , Schatten – eine nächtliche Halluzination

Robert Wiebne, The Cabinet of Dr. Caligari

Or a film by Alfred Hitchcock, such as Vertigo or To catch a thief

15/10 : present first ideas for a collective fiction including a pitch

(5-10 minutes each group)

22/10 : watch the webserie W, by Frederic Zeimet (6 episodes x approx.6min = 36 minutes)

<https://vimeo.com/378299535>

and present a draft script as a group (5-10 minutes each group)

29/10 > session 1: presenting the analysis of a movie (from the list)

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Please send your pdf/ppt by email the same day

05/11 : No seminar

12/11 > session 2: presenting final script and draft sketches/drawings. (studiowork, open discussion)

19/11 > session 3: presenting final script and draft sketches/drawings (studiowork, open discussion)

26/11 > final presentation (+ deliver a digital version– by email the same day)

Remark:

- Mandatory readings:

Forests, the shadow of civilisation

Robert Pogue Harrison

The university of Chicago Press, March 1993

.../...In this wide-ranging exploration of the role of forests in Western thought, Robert Pogue Harrison enriches our understanding not only of the forest's place in the cultural imagination of the West, but also of the ecological dilemmas that now confront us so urgently.../...

Theoretical background, among others. Free choice (not compulsory)

X-Ray architecture

Beatriz Colomina

Lars Muller publishers, April 2019

Visioning technologies

The architecture of sight

Edited by Graham Cairns

Routledge, 2017

La phénoménologie de la perception - The phenomenology of perception

Maurice Merleau-Ponty

Gallimard, mai 1976

Architecture and science fiction film:

Philip K. Dick and the spectacle of home

David T. Fortin

Routledge, May 2011

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"The Explosion of Space: architecture and the filmic imaginary"

in : Film Architecture : Set designs from Metropolis to Bladerunner

Dietrich Neumann

Prestel, August 2000

Journal Article

The End of the Classical: The End of the Beginning, the End of the End

Peter Eisenman

Perspecta Vol. 21, pp. 154-173

The MIT Press , 1984

The Presentation of Self in Everyday life

Erving Goffman

Doubleday, 1959

Professor: SCHMIT Carole

18-12 Cities, Masterplanning and Urban Governance

Module: European Urbanisation I (Semester 1)

ECTS: 4

Course learning outcomes: On completion of the course, a student should be able to

- orientate in the general discussion of the rationale, justification and trajectories of urban planning,
- make an informed judgement on the gap between contents and procedures of planning on the one hand and its effective outcomes on the other hand,
- identify the various elements of i) physical planning and ii) the political process, i.e. activities addressed as forms of governance.

Description: The aim of this course is to make students familiar with central concepts and approaches of urban planning, policy and governance, with a particular emphasis placed on the origins, rationale and elements of physical planning. Physical planning is key to the urban process, by determining land use, providing infrastructure and circulation, and by situating facilities in a way that it might support an efficient overall development of places. For this purpose, particular planning instruments have been developed and applied in much of the industrialized world, such

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as general land-use plans, particular building plans or more comprehensive, strategic framework plans. Also, informal instruments and procedures such as participative planning became quite popular recently.

However, the rationale of planning to steer development (and the related belief in planning to be able to do so) has been challenged by a variety of events, both originating from changes within the planning system and, even more so, of the outside world. A fragmented socio-economic development, processes of individualization, and most notably globalization have been putting a rising pressure on urban and regional places to adapt. Particularly market forces in planning and development and also the increased competitive dynamics among spatial units such as nations, regions and cities turned out to determine planning ambitions. As a consequence, these processes have been shaping the agenda of regulating processes, plans and institutions quite significantly.

Against this background, the course explores urban planning theories, practices and discourses in certain detail. The first part of the course is devoted to giving an overview of the more recent historical development of planning. The respective time span starts by and large at the peak of industrialization (late 19th and early 20th century), leading to recovery planning after World War II and then emphasizing the competing ideal-types of planning since the 1950s/60s: modernist vs. traditional planning, compact vs. dispersed development. Today's master planning of urban expansion, large-scale infrastructure projects or eco-city communities will give most recent insight into the world of planning, yet will also be critically interrogated.

On this basis, in the second part of the course participants will have the opportunity to work on selected plans – being these designed for developing a building, a 'project', an urban district, selected parts of infrastructure or concerning the future of entire territories. The aim of this exercise is to reconstruct the plans' contents, justification and implementation, leading to a critical assessment of the plans' outcomes and thus of urban planning at all. The course finally discusses more recent approaches to re-assert steering processes in the context of 'governance', that is, the multi-level and cross-sectoral interaction of various public and private agents set in place to achieve political goals.

- A short history of urban and regional planning
- Comprehensive planning and the challenge to integration
- From urban dynamics to evaluating plans, programmes and practices
- Essentials of planning, policy and urban governance
- Case study work on selected plans

Language:	Anglais
Mandatory:	Oui
Evaluation:	25 % guided reading and course presentation; 75 % paper report
Remark:	Selected references

Allmendinger, P., Houghton, G. (2009): Commentary: Critical reflections on spatial planning. *Environment and Planning A* 41, 2544-2549

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Faludi, A. (1970): The planning environment and the meaning of "planning". *Regional Studies*4(1), 1-9

Salet, W. (2014): The Authenticity of Spatial Planning Knowledge. *European Planning Studies*22 (2), 293–305

Scott, A. J. (2013): Emerging cities of the third wave. *City*15 (3-4), 289-321 (with images and captions by Elvin Wyly)

Professor: HESSE Markus, SIGLER Thomas

MARCH The Politics of Architecture

Module: Globalisation (Semester 1)

ECTS: 4

Description: Architecture is no longer a discipline merely serving the interests of economic forces nor a guardian of formal or stylistic purity. In recent years, a series of practices have emerged questioning the agency of architecture and its capacity to trigger changes in society not only in the formal dimension, but rather dealing with the social, political and economical inequalities originated by capitalism. The goal of this seminar is to provide the students an action-oriented overview of the possible ways of political commitment in architecture and generate and analytical feedback in a dynamic format. [1]

[1] This seminar is inspired on lessons from the practical experience of two academics who jumped to politics. Leftist positions that decided to take action and get actively involved as agents of change in the daily politics of managing urbanism issues in two cities: Barcelona and Santa Coloma in Spain. The experience is described by Josep Maria Montaner and Zaida Muxí at *Política y Arquitectura*. Gustavo Gili, Barcelona 2020

4 /10 **Introduction to the seminar . Take position and get action .**

- Making a city is a never ending task.
 - On social awareness and commitment to change.
 - Architecture is politics
- *Explanation of group dynamics and assignment.

/10 **Coordinates for New Politics**

- From Westphalia to Westfailure and the relevance of cities to drive change.
- In politics the space makes sense as long as it is inhabited. Spaces of opportunity occur in multiple and often unpredictable ways.
- The paths of politics in architecture: Institutional politics, confrontational politics (against power), articulating politics as a tool for change intervening and connecting power and agents.

18 /10 **The Public Space is an invention of the middle class**

- Cities and neighbourhoods as living units that are built by care and conflict.
- The multiple urban dimensions and the right to the city.
- Transversality and inclusiveness.



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* Group discussion

25 /10 **Technophobia and Technophilia. The dilemma of The smart cities.**

- From GAFA (Google, Amazon, Facebook, Apple) to NATU (Netflix, Airbnb, Tesla , Uber) and how they trigger transformations in urban morphology and labour conditions.

* Group discussion 2

08 /1 **Municipalism and the democratic autonomy of municipalities**

- The time and space for architects to take action.
- New profiles of non professional politicians.
- Women architects and feminine politics.
- The urgency in the defence of the commons.

Invited lecturer: Rosario Talevi . Soft Agency , Floating University , rosariotalevi.com . (Berlin)

15 /1 **'Know your neighbour' as a radical act for the times to come.**

- The value of differences and affections, in the configuration of common urban spaces .
- Spaces of otherness: Forget integration, embrace inclusivity.
- A vocabulary of hospitality.

Invited lecturer : equal saree (BCN)

22 /11 **Just another brick in the wall? The politics of housing**

- Housing, is an asset or a right?
- On sharing economy and "Airbnbification"
- A mosaic of urban living models.

* Group discussion 3

29 /11 **Delivery of Final assignment**

Language: Anglais

Mandatory: Oui

Evaluation: **Assignment:**

Students will work in groups (2-3) and provide a short video report in reel-like / TikTok format identifying seven sessions' points as addressed by the invited practices. The videos will be uploaded in the Masters website or similar online repository.

Rating: 50 % participation in the discussions , 50 % final assignment video.

Remark: **Literature:**

Zaida Muxí Mart ínez. Beyond the Threshold. Women, houses, and cities . dpr-barcelona 2021

Chantal Mouffe. Feminism, Citizenship and Radical Democratic Politics. The Return of the Political . Verso Books, 2020

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Keller Easterling. Medium Design. Knowing How to Work on the World . Verso, 2020

Florian Hertweck, Nikos Katsikis eds. Positions on Emancipation. Architecture between Aesthetics and Politics . Lars Müller Publishers, 2018

Jos Boys. The Disordinary Architecture Project: A Handy Guide For Doing Disability Differently In Architecture And Urban Design. The Funambulist The Space of Ableism, 2018.

Markus Bader, Katja Aßmann, Rosario Talevi. Explorations in Urban Practice. Urban School Ruhr Series . dpr-barcelona 2017

Markus Miessen. Crossbenching. Toward Participation as Critical Spatial Practice . Sternberg Press, 2016.

Pascale Lapalud, Chris Blache. Gender & Urban Furniture: A Bench Is A Bench Is A Bench?. The Funambulist. Object Politics, 2016

Merve Bedir. Vocabulary of hospitality . Volume. Architecture of Peace Reloaded. Archis Publishers , 2014

Pelin Tan. The Unconditional Experience of Space. The Monument Upside Down. Dutch Art Institute/ArtEZ, 2011.

Professor: REYES NÁJERA César

MARCH From Land to LAND. Critical Spatial Practices in the Digital Domain

Module: Globalisation (Semester 1)

ECTS: 4

Description: From the introduction of 'fractional ownership' to the emergence of entire markets for trading and developing digital land-real estate has become the latest frontier for start-ups and companies organised around the uses and promises of blockchain technologies. Thus, for instance, Mars House, designed in 2020 by artist Krista Kim and known as a first house to be sold as a unique, non-interchangeable digital asset stored on a blockchain platform (NFT), is now being actively rented out as a space for virtual events, such as concerts, wedding ceremonies or family reunions. Similarly, virtual reality platforms such as Decentraland—designed as a digital copy of the Earth, equally divided into 16x16 m tradeable parcels, each sold for 0.1 Ethereum—provide new imaginaries of land speculation, whose value is now solely dependent on the attention economy that powers these platforms. Traded as 'LAND' tokens, each parcel of the digital land of Decentraland is defined by unique x,y Cartesian coordinates that mirror those of the 'analogue' Earth, as well a reference to a content the owner wishes to provide on their LAND. Not surprisingly, this production and popularisation of digital environments as frameworks for leisure, entertainment and business, has also led to the emergence of companies specialised in design, development and trade of land and real estate in the 'Metaverse,' and whose hybrid expertise lies somewhere in the intersection of an architectural office, a real estate developer and a cryptocurrency broker.

Needless to say, these environments do not stand in isolation from the material conditions of production and distribution of housing and land. Thus, the mirroring of the actual surface of the

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Earth into digital assets such as Decentraland's LAND, did not only led to an acquisition 'rush' for parcels that geographically correspond to the famous locations on-the-ground, but could also easily be seen to work the other way around too-strategic 'hying' of the territories in the digital space in order to increase their value in the physical one. Standing on the opposite spectrum of what artist Hito Steyerl described as 'poor images,' referring to the compressed and pixelated, free and anonymous digital objects on the the Internet, whose condition of circulation and far-reaching dispersion, as she pointed out, has the potential to redefine the value of an image-NFTs (non-fungible tokens), such as Mars House, or digital-born architectures of Decentraland, are based on the speculative logic of private property and 'starchitecture.'

Starting from here, this seminar will be organised around the questions-how will the emergence and wider acceptance of digital properties and new technologies that facilitate real estate trade and speculation, impact the already unstable values and unjust distribution of land and housing on-the-ground? Which new forms of living and belonging could emerge out of these virtual relationships between people, space, and technical and financial infrastructures that enable them? How will this new domain of design and understanding of space, influence the work of architects and urban planners? And finally, what is the relation between the built and the fictional, the Earth and its digital twins, the physical and virtual real estates, and how are architects to mediate these materialities critically?

The seminar will aim at critically accessing the ways in which emerging blockchain technologies have the potential to shape architecture, cities and (built) environments. Organised around the discussion based on the selected critical readings and a collaborative development of a project that deals with the question of digital land, the goal of the course is to develop research and design tools for critical spatial practice across and between the physical and digital domains. More precise details of the design tasks and the complete list of the required readings will be communicated two weeks before the beginning of the seminar.

Language: Anglais

Mandatory: Oui

Evaluation: Evaluation will be based on the following criteria: 50% participation in the seminar discussions, 50% project design.

The seminar will aim at critically accessing the ways in which emerging technologies have the potential to shape both built environments and our collective urban imaginaries, focusing particularly on their role in creating and enabling new forms of land and housing speculation and commodification. From weekly group discussions based on the selected readings, collective field trips to digital space, performative actions in the virtual environment, analysis of born-digital architectural and urban projects-the goal of the course is to devise research and design tools for critical spatial practices across and between physical and digital domains.

Next to regular attendance of the course and active participation in weekly discussions, students will work on a research project organised around the topic of their own choice, learning how to critically access and respond to the current cultural, political and economic intersections of new technologies with the production of space. The output and the media of the research projects will be agreed upon between the tutor and the students during the first session of the seminar. Evaluation of the course will be based on the following criteria: 50% participation in the seminar discussions, 50% individual research projects.

Remark: The proposed list of readings could be updated during the course of the seminar. The individual session's tasks and selected readings (both required readings and additional sources) will be uploaded weekly on the course's Moodle page, one week ahead of the forthcoming session.



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Professor: MARIC Marija

04-73 Global Environmental Change in the Anthropocene

Module: Elective courses (Semester 1)

ECTS: 4

Language: Anglais

Mandatory: Non

Professor: STANKIEWICZ Jacek

01-11 - Urban and Spatial Planning Theory and Concepts

Module: Elective courses (Semester 1)

ECTS: 4

Course learning outcomes: On completion of the module a student should be able to

- differentiate between core notions of conceptual vocabulary used in geography
- illustrate their conceptual understanding through concrete examples and thoroughly apply the vocabulary
- distinguish between the academic/analytical and the political/normative understanding of the terms.

Description: The major aim of the module is to provide the students with an in-depth understanding of key terms and concepts used in geography and spatial development. Through the reading of core texts on the notions of space, place, scale, region, and networks, the students will develop a solid conceptual background for further work in the MAGEO programme.

Language: Anglais

Mandatory: Non

Evaluation: 25 % guided reading, 50 % paper report, 25 % class participation

Remark: Remark: Reading list will be announced in the first session

Professor: SCHULZ Christian

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International Development, Sustainability and Policy Coherence

Module: Elective courses (Semester 1)

ECTS: 4

Objective:

- To introduce students to predominant theories of development
- To introduce students to development strategies in the context of globalization through discussions with development actors
- To provide an understanding of the social and environmental impacts of development strategies

Description: The field of international development is generally analyzed in terms of policy effectiveness or moral issues related to the imbalance of wealth in the global arena. Such approaches have often limited development debates to material questions focusing on issues such as: the commitment of advanced industrial states to development through public investment; the efficiency with which funds are distributed in development strategies; the moral/political objectives that often are associated with development aid, microfinancing, etc.

This course aims to build on this approach to international development by examining cooperation within the context of social cohesion. The premise on which this course is based contends that development is not simply an economic issue because it relates to various relationships between different actors in global affairs, such as: international organizations, states, civil society, individual citizens and economic organizations and companies. Thus, the course asks: "What impact do European actors (including Luxembourg) have on international relationships within the framework of international development?" The course proposes a series of debates, each one focusing on a specific topic related to social cohesion and international cooperation. Following a general introduction by the course instructors, the course will be centered on discussions with practitioners and experts in the field of international development.

Language: Anglais, Français

Mandatory: Non

Evaluation: **Final Grade:** Students must submit a 15-20 page (double spaced) research paper on a topic of their choice that is related to sustainability or development by 22 January 2021.

The paper should include the following elements:

1. Introduction
 1. Including Research Question to which the paper responds
1. Literature Review
2. Conceptual Approach or Hypotheses
3. Methods
4. Empirical Research
5. Conclusion



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Remark:

Bibliographie

Amartya Sen. Development as Freedom. Anchor, 2000.

Jeffrey Sachs. The End of Poverty. Penguin, 2006.

J. Timmons Roberts and Amy Bellone Hite. The Globalization and Development Reader: Perspectives on Development and Global Change. Wiley Blackwell 2007.

(optional) Harlan Koff. Social Cohesion in Europe and the Americas. PIE-Peter Lang, 2009.

Professor:

KOFF Harlan

Master en Architecture

Semester 2

MARCH Design with Integrated Disciplines II

Module: MARCH Design with Integrated Disciplines II (Semester 2)

ECTS: 12

Course learning outcomes: Students will learn how to develop, represent and communicate a design project at the scale of a neighborhood through the investigation of a complex trans-border territory.

Description: In 1997, Thomas Sieverts published his seminal book *Zwischenstadt. Zwischen Ort und Welt, Raum und Zeit, Stadt und Land*. According to Sieverts, intact urbanity is reduced, if at all, to historic old towns, while everything in between is neither urban nor rural, but an intermediate constellation between both poles. In the face of climate change, resource scarcity and rising social inequalities, the transformation of these in-between cities towards sustainable rural-urban constellations is becoming increasingly urgent and challenges the discipline of architecture and urbanism. This semester, the Design Studio deals with the transborder region of the south-west of Luxembourg including the communes of

Pétange (L), Aubange (B), and Longwy (F), where the socio-economic conditions as well as the political-administrative structures are even more complex than usual.

This area thus spans three countries with numerous cross-border political, economic and social networks and daily flows of people, goods and resources, while each national fragment of this region has its own administrative structure and its own set of regulations.

Instead of expanding existing agglomerations, how can we transform the in-between city into what the landscape architect Leberecht Migge called a "rural city", i.e. a place with both more intensive nature and more intensive urbanity? How can the most fundamental functions of human life such as living, working, leisure and commerce be brought together without sealing any more land? What architectural and urban typologies will have to be developed for this deepening of the territory, and what forms of ownership, development and appropriation? Students will define their areas of intervention in small groups and map the above networks. In a second step, design will develop strategies to transform the through space and time. Project in partnership with Bauhaus Universität Weimar, Technische Universität München, Universität Kassel, Technische Universität Wien.

Course structure:

- Investigation of urbanization in the southwest transborder region and its effect on climate, biodiversity and resources.
- Definition of the social, political, economic and environmental framework (i.e. the problematisation) of the project.
- Exploration urban and landscape design strategies by emphasizing the social and ecological components.



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- Analysis & mapping: data & geographical atlas, objective & subjective
- Developing design strategies across various, from 1/10.000 to 1/500 or even 1/200
- Representing and presenting the final project through different modes and medias (plans, collages, animations, films).

Language:	Anglais
Mandatory:	Oui
Evaluation:	Rating: <ul style="list-style-type: none">• 50% participation in the studio,• 50% final project presentation on 31.05.2022
Professor:	HERTWECK Florian, NATHAN Philippe

MARCH Design Studio II Individual work

Module:	MARCH Design with Integrated Disciplines II (Semester 2)
ECTS:	0
Description:	this is your individual work to be performed during all semester at the Design studio (it is indicated Tuesdays evening just to make it visible on your GE but of course in reality it is during the week, whenever you don t have other courses).
Language:	Anglais
Mandatory:	Oui
Professor:	HERTWECK Florian

MARCH Histories of Urbanism, Gender & Urbanization

Module:	MARCH Architecture II (Semester 2)
ECTS:	5
Objective:	
Description:	<p>The course aims to introduce students to the main projects and phenomena of urban planning and urbanization that have taken place since the mid-19th century , when the Industrial Revolution marked an exponential growth in the dynamics of urbanization. Today, the city is created through a series of relations between people, buildings, infrastructure, capital, services - to name but a few agents . Through an analysis of history, this course helps students to better understand what are the logics and dynamics behind those relational processes, and how they crystallize in urban forms and designs.</p> <p>This historical course is based on two lines of thought, or two approaches to the 'history of the city' which intersect in this course. These two approaches (historical & thematic) are strongly related to the contemporary debate on the city, thus avoiding the teaching of history 'because of</p>



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history'. The aim is to teach history because of its contemporary relevance, which should enable us to better understand certain urban problems or issues which surround us today, at the level of the territory, the landscape, the city and the social dynamics that connect them. The seminar will allow the students to mobilise history as an instrument which helps us to critically read the construction of the city and urbanization while also introducing a gender perspective.

The course will consist of two parts. During the first 5 seminars, taught by David Peleman, the focus will be on the critical approach to urban projects in the 19th and 20th centuries. Each seminar takes the reading of two texts as a starting point and as a mirror to look at a series of projects that are part of the canon of urban design.

The second half of the semester, taught by César Reyes Nájera, will present the work of feminist scholars who claim for a revised account of the history of architecture and urban planning through the contributions of women often omitted in the histories of urbanism. The students will be confronted with texts that challenge dominant historiography, revealing the false neutrality and universality found in many historical narratives and the importance of questioning the construction of gender roles in the city.

Course structure: 10 seminars, scheduled on Thursday morning, from 9h45 until 12h15. Please refer to your GE.

Language:	Anglais
Mandatory:	Oui
Evaluation:	Students have to write an academic paper of 2000 words, in which they describe and critically assess an urban design project from their home country from the 20th century. The information from the courses serves as an analytical framework to set up the narrative of the paper and as a repository of references and ideas to position the chosen project.
Remark:	Mandatory readings: Avermaete, Tom & Gosseye, Janina (2021) Urban Design in the 20th Century. A History. Zürich: ETH Zürich & gta Verlag Hooks, Bell. Teaching New Worlds/New Words (1994). Teaching to Transgress. Education as the Practice of Freedom. London: Routledge, pp. 167-175. Muxi Martinez, Zaida (2020) Beyond the Threshold. Women, houses and cities. Barcelona: dpr-barcelona.
Professor:	REYES NÁJERA César, PELEMAN David

MARCH Smart and circular cities

Module:	MARCH Architecture II (Semester 2)
ECTS:	4
Language:	Anglais



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Mandatory: Oui
Professor: SCHMIT Philippe

MARCH Urban and Landscape Design within Europe

Module: MARCH European Urbanisation II (Semester 2)

ECTS: 5

Description: THE LANDSCAPE OF THE IN-BETWEEN- LANDSCAPE DESIGN MICRO-STUDIO

LANDSCAPE IN EUROPE- STUDIO RELATED TO 2ND YEAR STUDIO 'URBANIZING THE IN-BETWEEN' (Christian Weier, Landscape architect)

Landscape architecture in Europe' is a module that is taught to give students a better understanding of the environment they work in and work with. From my point of view as a practising landscape architect collaborating frequently with architects and urban designers, it is most important to give you as master architecture students a different angle and a few tools to think about their core architectural work from the 'outside' and integrate the thinking about landscape into their urban design and architectural approach.

This is a big task for a micro-studio, but there are two factors that will make it possible for t students to get involved easily. Firstly, we will avoid to confront the students with a new site as the studio is related to the architecture studio 'urbanizing the in-between' and students will work on the site they are dealing with for their architecture studio. The student can work on landscape architectural aspects related to their urban design studio project. Secondly, you have been already been exposed to landscape architectural thinking in the teaching sessions on landscape architecture lead by Olivier Gaudin in April.

Program

In the first session, I will make a short introduction to the studio. This will be followed by a presentation of your site analysis and concept development that you have been working on as groups and a short introduction of each of your projects. In a second set of individual sessions, I would like you to introduce me to your current urban design project.

Language: Anglais

Mandatory: Oui

Evaluation: Participation 20%
Project development 35%
Final review : 45%

To evaluate the project, and eventually grade it, different factors will be taken into consideration:
A Presence and participation in online teaching sessions 20%

B Development of ideas and process of project development in the form of sketches, writing, collages 35%

Deliverables: A project booklet explaining the genesis of the project A3 or A4

C Final project (to be presented on presentation board) 45%

Deliverables: A project presentation on 1 A2 or 2 A3 in digital format (bigger depending on scale) and presentation in teleconference

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Any chosen form of presentation is acceptable – free hand, digital 2D or 3D drawings, model-making.

Professor: COIGNET Philippe

MARCH Special Topics in the Architectural History of the 20th Century

Module: MARCH European Urbanisation II (Semester 2)

ECTS: 4

Course learning outcomes: An elementary knowledge of major developments in Western architectural history of the 20th century is considered an entry requirement. In this seminar, we will closely investigate a number of case studies that will allow students to better understand how architectural discourses and architectural production have been embedded in "architectural cultures", and how the historiographical analysis of these cultures has, in turn, been subject to changing trends.

Description: The introductory class will be devoted to the closely related questions "what is architectural history?" and "what is historiography?". We will define the disciplinary identities of architectural history and general historical science, allowing us to explore the similarities and differences between both. In addition, we will investigate general analytical concepts such as historicity, (a)chronology, (dis)continuity, subjectivity vs. objectivity, cultural turn, banality, users' agency vs. architectural determinism, nationalism, and modern/modernity/modernism.

The following two classes will focus on a phenomenon that has recently been dubbed (by the French researchers Xavier de Jarcy and Marc Perelman) the "zones d'ombre" ("shadow zones") of architecture and their creators. These "shadow zones" are ideological beliefs and ideals that run counter to the notion of "humanism", and that – precisely for this reason – often have been ignored or overlooked in architectural historiography. Both classes offer an exploration of such "zones" in the interwar period, investigating the work of Le Corbusier and Ernst Neufert respectively. Even though Le Corbusier is one of the most-studied architects of the twentieth century, architectural historiography has often analysed the architect's work in a formalist vacuum, thereby reducing his political-ideological beliefs to an irrelevant backdrop for the singular work of a genius. It is clear, however, that Le Corbusier's visions cannot be understood without taking into account the enormous appeal that political-ideological concepts such as fascism, "strong state power", and "planism" had during the interwar period. In relation to the work of the German architect Ernst Neufert (the author of one of the best-selling design handbooks of all time), we will explore how supposedly "neutral" architectural norms have both reflected and supported evolving political regimes – from democracy to Nazism. In addition, we will investigate the intellectual genesis of the Taylorist rationale that underpinned the concept of normativity itself.

The fourth to sixth classes will be devoted to the "architecture of bureaucracy". On the one hand, we will explore the history of one of the quintessential building types of the twentieth century: the office building. By closely investigating architectural and managerial ideas in unison, we will be able to analyse office spaces from the first half of the century as "techno-organizational complexes" (Delphine Gardey), in which norms on "ideal work routines", "ideal leadership", and "ideal employees" were reflected. Essential elements in this analysis are principles such as distrust, hierarchy, and "moral panic" (all in relation to lower class groups and women). An additional analytical element is the notion of "panoptic" and "omnioptic" surveillance, whose

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origins in the work of the 19 th-century philosopher Jeremy Bentham will be retraced. On the other hand, our investigation of the "architecture of bureaucracy" will lead us to the buildings designed for governmental bureaucracies, such as ministries and transnational organizations (e.g. League of Nations, UN, European Union). Here, essential analytical concepts will be the notions of representation, (anti-)monumentality, determinism, and opacity vs. transparency.

Throughout the course, we will seek to develop a transnational comparative perspective, involving input from the students regarding the "architectural cultures" of their country/countries of origin.

Language:	Anglais
Mandatory:	Non
Evaluation:	50 % participation in the seminar (discussions, student presentations), 50 % written essays
Remark:	Mandatory readings: One book or series of articles per class (selection TBA)
Professor:	VAN DE MAELE Jens

09-22 Socio-Economic Development Trends in Europe

Module:	MARCH European Urbanisation II (Semester 2)
ECTS:	4
Course learning outcomes:	Upon completion of the course, students should be able to: <ul style="list-style-type: none">- - Describe the current trends and challenges that affect European cities and metropolitan areas.- - Identify the main concepts and theories related to European urban policy and metropolisation and discuss their contribution and relevance.- - Critically assess the ways in which these socio-economic trends are captured and treated in empirical studies.
Description:	<p>The main objective of this MA course is to give students an overview of the current urban and territorial developments in Europe as well as of the resulting urban policy responses with regard to the growing urbanisation and globalisation trends. A specific feature of this course is that it analyses these trends and their associated challenges and policy responses from three different perspectives, namely from an urban policy, a conceptual and an applied perspective.</p> <p>The aim of the first part of the course is to critically assess which concepts and theories are able to make sense of the trends and changes that can be witnessed in contemporary Europe. It starts at the European and regional level, with a focus on processes such as globalization, metropolisation and cross-border regionalisation. In response to the emergence of the city as</p>

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unit of analysis, the attention turns to socio-economic developments at the urban scale, including suburbanization, gentrification and urban regeneration.

The objective of the second part of this course is to complement these conceptual considerations with empirical evidence based on case studies and comparative analyses. To achieve this, a great variety of research and studies will be mobilized. The empirical examination of the trends and challenges of urbanization and metropolisation processes in Europe will notably rely on works conducted by ESPON, national planning agencies and European scholars.

The third part of this course explores the rationalities behind European urban policies as well as their context, development paths, operating principles and effects from a critical perspective. Conceptualizing urban policy as being dynamic and malleable urges us to reconsider traditional understandings of and approaches to the role of European urban policies in economic and social development as well as the processes by which these policies develop and define themselves in practice.

Language:	Anglais
Mandatory:	Non
Evaluation:	20% continuous assessment on all parts of the course. 80% written exam on all parts of the course.
Professor:	BECKER Tom, SOHN Christophe

Transport Systems Analysis

Module:	MARCH European Urbanisation II (Semester 2)
ECTS:	4
Objective:	<p>This course provides the fundamentals of traffic and transport systems theory: it aims at understanding and managing the relationship between demand for mobility and the various transportation systems and explains how these lead to economic and societal problems such as congestion, pollution, etc.</p> <p>The goal is to provide a broad view of transportation systems analysis covering both private and public transport systems, and to complement this overview with a discussion of aspects like congestion analysis and management, intelligent transportation systems, traffic data collection methods, and new sustainable options (travel sharing, multi-modality, e-cars, etc.).</p>
Course learning outcomes:	<ol style="list-style-type: none">1. Provide the student the student with a basic knowledge of transportation systems and to get in touch with the most relevant issues addressed by transportation systems theory.2. Introduce the student to theoretical and practical tools to analyse traffic and transport systems, to solve traffic management and infrastructure planning and design problems.
Description:	<ol style="list-style-type: none">1. Introduction to transport systems analysis and transport planning and management;



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2. Supply systems and traffic flow theory: Urban and motorway systems, definition of capacity, Macroscopic models (fundamental diagram approach);
3. Demand and Travel behaviour: Basics of random utility theory, decision making processes, choice set generation; 4-stage modelling, OD estimation from traffic data
4. Traffic assignment and equilibrium: Traffic assignment processes; equilibrium principles;
5. Planning and scheduling of Public Transport: Timetabling, railway capacity, safety systems, real-time rescheduling and management; PT planning and design, sustainable mobility, multimodal networks
6. Infrastructure planning and design: Basics of transport economics, pricing problems, road maintenance strategies, design and planning of new infrastructures

Theme:

1. The complexity of modelling transportation networks is elaborated in detail, from the analysis of the demand to the arising of congestion problems and how to mitigate them.
2. Different management solutions are described in the second part of the course to learn how to reduce transportation costs, and seek sustainable mobility targets.

Teaching modality: Lecture

Language: Anglais

Mandatory: Non

Evaluation: Written Examination

Remark: Course handouts, course notes.

Cascetta E. Transport Systems Analysis. Springer (complementary reading)

Ortuzar J. and Willumsen P. Transport Modelling. Wiley (complementary reading)

Professor: VITI Francesco

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Semester 3

MARCH Design Studio semester III

Module: Design Studio Semester III (Semester 3)

ECTS: 12

Objective: Objective:

Course topic and structure:

6 PUBLIC HOUSES - On the Metabolic Institution

-You will have to define:

. a neighbourhood and **territory of action**: where do people convene and why?

. a **target community**

. a **group of stakeholders**

. a precise **physical site of intervention** -justified in terms of mobility, social practices, political means, etc.

-You will engage specific analysis of:

. the chosen site ' **urban fabric and its cross-border specificities** at a territorial scale

. the territory of action: the **reality of the constructed situations and their mental representations** (no simple inventory or typological ordering)

. **site-specific potential needs and practices**: you must acknowledge local situations. Define several local interlocutors/sparring partners for your project (befriending, i.e. who are your local sources of information)

-You will eventually produce:

. a **design proposal** of a building and its strategy for public use; test live formats-an integrated identity for the place: the way people meet in space, the way in which the place communicates its outreach/influence within the neighbourhood and beyond, etc.

. a **Compiled Thesis**, a research booklet including methodology and references

Course learning outcomes:

. Students will learn how to develop a design project from the scale of a neighbourhood to the scale of the architectural object



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. The final design project will expose a process of a critical analysis of the socio-spatial condition in which it has been developed, and show conceptual, graphic and technical virtuosity

Course learning outcomes:

(presence in the studio is mandatory each Tuesday, full day)

Description:

6 PUBLIC HOUSES - On the Metabolic Institution

I.

Your proposal will identify a framework response that, in the context and plethora of the entire studio group, will devise a distributed strategy for the entire urban area of Esch: it will investigate **how to imagine, devise and design a place of politics, driven by issues of mobility, social practices, built environment, etc** . Indeed, the course explores the relationship between the social phenomenon of human assembly and how (spatial) design may arguably have the **ability to effect and affect everyday urbanismsituations** . It investigates the correlation between habitus , spatial policies, and design practices to **place the student as a critical mediator** at the intersection of the different local actors. As a group, we will work around and with spatial constructs that set a productive and critical framework for social interaction and assembly. To do this, we will integrate ourselves in the city of Esch, in the physical space of the Chair.

Indeed, the Chair will produce **immersive research, alongside actual people and their local stories** , which ambition will be to conduct the research and consultancy in a physical agency to **open up directly towards the city, specific neighbourhoods, and urban conflicts** .

The role of the studio in this situation will be one of embedded research, developing **prospective and strategic frameworks** for best-practice planning that **interrogate models of purely economic growth** towards a more inclusive culture of civil society, quality of life, and sustainable futures. You ' ll work hand-in-hand with ongoing initiatives, establish communication between different actors within the devolved pattern to **enhance the quality of public life of the cross-border region** .

II.

We will be working towards producing **a set of test cases** regarding future **Transition Hubs** in and for the political landscape of the Greater Luxembourg region by investigating and intervening [in] the local context of Esch/Brill:

- . Transition and enabling of localized discourses;
- . Transition Hubs both as a localised/neighbourhood/space of assembly as well as political/organizational tool for the Transition;
- . Typologies of assembly: urban, intermediate, rural;
- . Transition Hub prototype Brill: what constitutes its spatial and cultural identity?
- . In the context of the Luxembourg in Transition project, **a prototype (1:1 scale)** for a Transition Hub will be realized in 2022.

III.

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Weekly exercises : as a response to the brief, and the question of how to integrate heterogeneous identities, you should think about **how to integrate particular sets of knowledge** that you, as a member of the research team, bring along regarding your home culture. Identify this/your knowledge and propose as to how to integrate it as a personal take on the brief. You will be working in **pairs** (6 groups of 2 people) and develop a **collective toolbox** that you will update before each collective working session.

Language:	Anglais
Mandatory:	Oui
Evaluation:	50% participation in the studio, 50% final project presentation
	Mandatory:
	Yes (presence in the studio is mandatory on each Tuesday, all day)
Remark:	Schedule:
Professor:	MIESSEN Markus, CANE Francelle

MARCH Seminar Communicating Architecture

Module:	Architecture III (Semester 3)
ECTS:	3
Course learning outcomes:	Students will be introduced to a critical examination of the methods, practices, and strategies, of architectural communication and discourse, as shaped through photography, writing, publishing, exhibitions, biennials - and ultimately architecture itself. They will learn how to read, interpret, and construe these contextualisations - and conclude with a statement of practice of their own.
Description:	<p>How are spatial relationships discussed and made visible? How do we look at, and communicate our surroundings? How do we look at, and communicate architecture? This seminar will investigate the strategies that can be employed through writing, photography, and the use of publications, publishing strategies, and exhibition making as well as other media, as an alternative spatial practice - and discourse.</p> <p>We will start with the first books of architecture, explore the historic relationship between photography and architecture, look at examples of publishing in art and architecture, and exhibitions - and the role, use, strategies, and possibilities of contemporary media - employed by architects and artists alike.</p> <p>Discussing the larger context of architectural perception and communication, we will discuss the editorial principles and parameters at work - and consider the perception and communication of architecture - and ultimately your own practice, through the communication strategies employed.</p> <p>Special attention and brief introductions will be given to the work of, and strategies used by Vitruvius, Alberti, Mies van der Rohe, Le Corbusier, Aldo Rossi, Ettore Sottsass, Lewis Baltz, Herzog & de Meuron, Rem Koolhaas OMA/AMO, Ed Ruscha, Venturi Scott Brown, Jack Self, Valerio Olgiati, Something Fantastic, 6A, Gordon Matta-Clark, Yona Friedman, Atelier Bow-</p>



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Wow, Robert Smithson, Abraham Cruzvillegas, Iván Martínéz, Accattone, Brandlhuber+ / B+, the work of Beatriz Colomina, and the approach and role of the CCA in Montreal.

Teaching modality: Course structure:
7 x lectures à 3 TU each, Mondays 10.30-13.00h

preliminary schedule:

11.10, belval
18.10, belval
25.10, online
08.11. online
15.11, online
22.11, and 29.11 belval

Language: Anglais

Mandatory: Oui

Evaluation: Rating: 50 % participation in the seminar, 50 % written exam / Manifesto of Practice.

Remark: A few titles, publications and references from, on, and by.... just google them and you will find all versions and formats as published over time:

Contemporary titles-Superstudio, all and most notably – Migrations / CIVA König-Rem Koolhaas, Oma/Amo-Constant -Cedric Price -Archigram -Keller Easterling -Yona Friedman
Historic titles-Eugene Atget, photographer of the big Hausmannian transformations of Paris-Emile Zola, writer on the big Hausmannian transformations of Paris
Speci?c Titles-The Situationist and the City, ed Tom McDonough, Verso Books-The Image of the City, Colin Rowe-Four Ecologies, Rayner Banham-Learning from Las Vegas, Venturi Scott Brown, Interviews VSB-Real Review, Jack Self-Fulcrum, Jack Self-Gilles Clement, Planetary Garden, The Third Landscape-Feminist Power Tool, Hélène Frichot-Dirty Theory: Troubling Architecture, Hélène Frichot

-Architecture and Feminisms: Ecologies, Economies, Technologies, ed Hélène Frichot

-The Other Architect: Another Way of Building Architecture Ed, Giovanna Borasi, Spector Books, CCA

Books on Books of Architecture and publishing practices by architects

-Catherine de Smet, Le Corbusier, Architect of Books

-The Anatomy of the Architectural Book, André Tavares

-Sara de Bondt, The Book of the Book

-Beatrice Colomina, Manifesto Architecture, and subsequently all other titles

Professor: OVERMEER Erica

Steel & Composite Structures 1 – High Rise Buildings

Module: Architecture III (Semester 3)

ECTS: 5

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Objective:

Civil Structural Engineering

The learning targets concern different types of steel and steel composite structures of multi-storey- and tall buildings. Light flooring construction types and special bracing constructions for high-rise buildings in steel and steel composite structure are determined and analysed.

Special calculation methods, like the determination of the Eigenfrequency of a building and important constructional rules, for example the combination of different bracing elements are known.

Different Methods of optimizing the building construction elements - with the different target parameters like construction time, simplicity of assembly, degree of prefabrication and reduction of steel tonnage is known. Especially the last point is important, which insists in the basis for the later judgement of CO₂-equivalent concerning the sustainable construction with limited resources.

The student is able to work interdisciplinary in a team of structural engineers and architects.

Learning the mutual understanding is important in a sense, that different actors in the building sector have – according to their profession and assignment – different "languages" and also different targets to achieve.

Architectural Engineering

The student in Architectures is able to work in an interdisciplinary group of Architects and Structural Engineers.

He knows about the different challenges of high-rise buildings in comparison with residential buildings and multi-storey buildings.

He can draft a high-rise building with consideration of the most important structural elements in combination with a structural engineer. He knows the different structural elements, which are necessary for the vertical load take down and the building's bracing.

Course learning outcomes:

Civil Structural Engineering

1. The student is able to work in an interdisciplinary team of Architects and Structural Engineers.
2. The student is able to propose different ways of constructing and analysing composite slab systems for high-rise buildings in steel and concrete and knows how to prove its load bearing capacity. The student can propose the different methods to brace high-rise buildings and is able to calculate the stability of the bracing system.
3. The student is able to draft different structural systems for wide span constructions, to name assessment criteria and to judge the respective advantages and disadvantages.
4. The student is able to draft and design a standard bridge with the special required proofs of fatigue for the steel details.

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1. The student is able to work in an interdisciplinary team of Architects and Structural Engineers.
2. The student is able to develop a rough draft of a high rise building with the knowledge about the necessity of structural systems

Description: High Rise Buildings in Steel and Concrete Composite Structure

- Introduction
- Exemplification of worldwide well known buildings
- Slab structures in composite steel and concrete structures
- Impacts on high rise systems
- Bracing systems
- Structural analysis
- Circular Economy and Reusable Systems
- Judgement criteria concerning construction time, simplicity of assembly, degree of prefabrication and reduction of resources namely steel tonnage and concrete volume

1. This course is focusing on the first theme: the design of large structures in steel and composites.
2. The subject Sustainability is tackled in the chapter about reusable systems for a circular economy.

Teaching modality: Lecture and Workshops

Language: Anglais

Mandatory: Oui

Evaluation: Development of a High Rise Building –

1. Participation in the lectures and workshops
2. Development and Draft of a HR building within an interdisciplinary team
3. Quality and plausibility of the developed solution
4. Final report with structural analysis, architectural drawings and structural drawings
5. Final presentation

Remark:

Script
C. Petersen; "Stahlbau", Vieweg-Verlag
K.-J. Schneider; "Bautabellen für Ingenieure"; Werner Verlag
"Betonkalender", Verlag Ernst und Sohn
"Stahlbau-Kalender", Verlag Ernst und Sohn
S. Bungale; S.E. Taranath; "Wind and Earthquake Resistant Buildings",



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W.F. Chen, E.M. Lui; "Handbook of Structural Analysis and Design"; Taylor and Francis, Boca Raton, USA

Professor: ODENBREIT Christoph, METOLLI Rigels

MARCH Visual and Cultural Studies

Module: Architecture III (Semester 3)

ECTS: 3

Objective: This course gives an introduction to main topics in contemporary art and provides an insight on the role of modern and contemporary art museums in western societies: it aims at understanding the relationship between the development of art, architecture and representation, while exploring the societal, political and urban aspects implied by the construction of such a museum.

Course learning outcomes:

- Provides the student with a knowledge of some aspects of recent art history and its iconography
- Introduce the student to theoretical and practical tools to analyse needs and functionality of art museums.

Description:

1. Introduction to main issues of modern and contemporary art
2. Iconography and representation of utopia: how to read an artistic / architectural image ?
3. Case studies of contemporary art practices and museums

Organisation: Lectures, discussions and visit of a museum

Language: Anglais

Mandatory: Oui

Evaluation: 25 % participation during the course, 75 % home assignment (essay).

Professor: LUNGHI Enrico

MARCH Comparative analysis: laws, regulations, norms

Module: European Urbanisation III (Semester 3)

ECTS: 3

Course learning outcomes: Students are introduced to the logic and structure of major laws and regulations related to the build environment at the building, urban and regional scale.

Students familiarise themselves with local, regional and European regulatory frameworks.

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Students learn how to integrate regulatory constraints onto their design projects.

Description: Regulatory frameworks and regimes constitute a crucial element shaping the building environment at multiple scales: from the national and transnational, through national and European spatial development plans; to urban and regional, through masterplans and urban and regional plans; to the building scale through building codes and regulations. This course aims to introduce students to the logic and structure of major regulatory frameworks, focusing on the broader region of Luxembourg, but also on the European scale. Moreover, it aims to help students integrate regularity conditions into the design process.

Course Structure:

Overview of major regularly frameworks, actors, regimes and scales, both historical and contemporary and their impact on the build environment.

Focus on regional and European regulatory frameworks and local building codes and regulations.

Integration of regularity conditions into the design process.

Language: Anglais

Mandatory: Oui

Evaluation: 50 % participation in the seminar, 50% final project.

Professor: VON ROESGEN Maximilien Paul Pierre

MARCH Seminar on Project Management

Module: Seminars III (Semester 3)

ECTS: 4

Objective: The student has to be aware of the life cycle of a building and the different consecutives phases. A focus is set on the "conception phase" to guaranty a user needs adaptable building as main condition for a sustainable construction. The understanding of an infrastructure as support for the core business of an economic, public or private entity and as important part for the social and cultural development of an urban area will help to define the targets of any construction. She / he will learn about the differences between role and function in a project team and get informed about the link between legal requirements (construction laws in D/F/L context) and technical and process orientated constrains. As construction is the consequence of filling in contracts between partners who are linked by mutual performance bonds, the legal basics for contracting and tendering will be mentioned in the D/F/L context.

The student will be able to set up a project structure and get competences to lead a team and manage the tools in a more and more digital supported design process. (by using BIM-methods)

In a more practical part of the lecture and by using examples of university premises at Campus Belval, she/he will be trained to interpret the user needs to set up a space program for a research building.



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Course learning outcomes:	The student understands the principles of project management in a object orientated design process (BIM-methods) and can apply this as leader in a construction design team. She/he understands the design and construction process as filling in contracts between partners who are linked by mutual performance bonds.
Description:	<p>1-Introduction:</p> <p>"Building activity" as added value chain process: project management task - design task - building task - exploitation task.</p> <p>Future trends for real estate development. (smart building, low emission, digitalisation..)</p> <p>Future challenges for the added value chain process.</p> <p>2-Project management task for building activity:</p> <ul style="list-style-type: none">· Real estate lifecycle· Phases in a construction process (timeline / technical sequence)· Participants (role & function)· Targets – tools – requirements· Cost- quality- & risk-management for construction projects <p>3-Design management:</p> <p>Object orientated Design – BIM in construction process</p> <p>Basic principles for object-orientated design</p> <ul style="list-style-type: none">· Work-flow and communication in a data base network structure· Definition of the role of the "users needs"· Definition of object –qualities· "Design team" for collaborative working (roles - requirements – communication – lead) <p>4.Construction and Exploitation management:</p> <p>Milestones to transfer the project into "building status" / "exploitation status"</p> <ul style="list-style-type: none">· Bid – contract – supervise- overhand <p>5.(option) Workshop: Concept definition for research and teaching real estate.</p>
Language:	Anglais
Mandatory:	Oui
Evaluation:	50% participation in the seminar, 50% final written exam (90 min).



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Remark:

Harris, McCaffer; Modern Construction Management; Wiley 2013

Eyon, John; Construction Manager's BIM handbook; Wiley Blackwell 2016

Sommer, Hans; Projektmanagement im Hochbau; Verlag Springer 2016

Hardin, McCool; BIM and Construction Management: Proven Tools, Methods, and Workflows; Wiley 2015

Diethelm, Gerd; Projektmanagement Band I und II; Verlag Neue Wirtschaftsbriefe 2000

Kochendörfer, Bernd; Bau-Projekt-Management, Verlag Teubner 2004

Viering, Markus G; Managementleistungen im Lebenszyklus von Immobilien; Verlag Teubner 2006

Girmscheid, Gerhard; Projektabwicklung in der Bauwirtschaft; Verlag Springer 2007.

Professor:

SCHEUERN Michael



Master en Architecture

Semester 4

MARCH Design Studio - Final Master Thesis

Module:	MARCH Design Studio - Master Thesis (Semester 4)
ECTS:	30
Description:	<p>The Master Thesis is the final project of the 2-year study-cycle leading to the Master in Architecture degree. Within this project, students have to successfully demonstrate their skills in research & analysis, synthesis, methodological rigour, and – finally – design. The chosen interpretation of design regarding scale and application is open to – and has to be critically and rigorously argued by – the student.</p> <p>Students are free to choose to work either individually or in pairs, developing a self-initiated project that will establish the basis of a mature and articulated work, representing a successful and challenging example of their future practice and, hence, an understanding of and positioning within the discipline-at-large.</p>
Language:	Anglais
Mandatory:	Oui
Evaluation:	The evaluation of the work is based on framing of the research question, the process of content formation with the project, the development of appropriate forms of application, and the design of adequate physical and non-physical responses that deliver a form of critical spatial production. Important criteria in this regard constitute the abilities to develop a relevant and critical methodology, to articulate research and design, to synthesize, and to draw or otherwise visualize the resulting proposal.
Professor:	MIESSEN Markus, SCHMIT Carole, REYES NÁJERA César

MARCH Design Studio - MT Supervision

Module:	MARCH Design Studio - Master Thesis (Semester 4)
ECTS:	0
Description:	<p>1st session will take place on 9 March in room MSA 4.100 (GE says "remote" pls ignore !)</p> <p>The purpose of the seminar is to give you additional guidance, general support and references for the research project of your Master Thesis. It will be complementary to the specific thematic focus and orientation your MT tutors will give to your work. The objective is to guide you to have a continuously reflective, critical attitude towards your own ideas and thoughts, i.e. to give you further input to dig deeper into thematic worlds you might explore and their possible modes of representation.</p>



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Language: Anglais
Mandatory: Oui
Professor: SCHMIT Philippe