AR-476

UE U : Cartography

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Cursus	Sem.	Type
Architecture	MA1, MA3	Opt.
Mob. AR	H	Opt.

Language of teaching	English
Credits	4
Withdrawal	Unauthorized
Session	Winter
Semester	Fall
Exam	During the semester
Workload	120h
Weeks	12
Hours	**4 weekly**
Courses	3 weekly
Exercises	1 weekly
Number of positions	

It is not allowed to withdraw from this subject after the registration deadline.

Remark

Inscription faite par la section

Summary

Teaching unit on cartography and environmental aesthetics in architecture.

Content

Maps are visual tools for thinking about the world at many scales. They shape scientific hypotheses, organize political and military power, delineate private property, and reflect mental conceptions of landscapes and nonhuman nature.

In the Western tradition, medieval maps were less territorial descriptions than conceptual cosmologies, often depicting biblical stories, mythology, history, flora, fauna, and exotic peoples and species. With the advent of modernity, an important shift took place. Cartesian perspectives traced the world in relation to a fixed human subject, while mathematical God's-eye views surveyed the land from an abstract, elevated "nowhere." Accurate maps--stripped of all elements of fantasy, religious belief, and authorship--became essential tools for modern scholars and states who sought rational progress through scientific prediction, social engineering, and planning. Cartography became concerned with analyzing and measuring the *res extensa*, and the land survey became a crucial instrument of capitalist development.

Capitalism required the invention of "space as emptiness, as a universal receptacle in which objects exist and events occur, as a frame of reference, a coordinate system . . . within which all reality exists." (Neil Smith) But the flip side of treating the environment as an abstract container is treating architecture as an abstract object--disembedded, consumed, and aestheticized for its own sake. From this radical separation, maps become quantitative systems for managing phenomena, while buildings become circulating commodities for the valorization of land rent.

But the environment is not a mere backdrop or a container of natural resources, just as architecture is not a collection of objects floating in a vacuum. Buildings and landscapes constitute each other dialectically and cartography can render this dynamic concrete.

This teaching unit offers a critical method for embedding architecture in the environment. By mapping buildings in their space and time, we reveal the invisible backgrounds that make up their material conditions of possibility. The aesthetic choices conveyed in the so-called "object" thus appear no longer disinterested, but complex, as a rich totality of environmental relations.

NOTE: The selection of objects to be mapped aligns with the content of the associated history and theory courses, Modernity I (AR-510) and Modernity II (offered in 2027 only). A provided list of buildings will feature objects dating from

the Modern era (1789-2008). The overarching theme, Land Constellations, reflects the shared method employed across both UE U and the Modernity courses.

Sessions

1. Cartography and Modern Abstraction
2. Drawing: Visual Layers
3. Tracing: Spatial Figures
4. Mapping: Environmental Formations
5. The Dialectical Method
6. Midterm Reviews
7. GIS Workshop w/ Aurèle Pulfer
8. The Map as Critique and Praxis
9. Landlines: Pipe, Enclosure, Frontier
10. Guest Lecture
11. Guest Lecture
12. Final Reviews

Keywords

Architecture, Cartography, Environmental aesthetics, Object and totality, Dialectics.

Learning Prerequisites

Recommended courses

Preparation for design and research studios that reflect on cross-scale relationships and the environmental backgrounds of architectural form. Provides methodological support for orientation C. Cities -- Territories and *Enoncé théorique de master*. Content is closely related to history and theory course Modernity I (AR-510), which offers a text-based version of the same critical question and method. Enrolment in UE U is limited to 30 students maximum. Modernity I has unlimited enrolment.

Learning Outcomes

By the end of the course, the student must be able to:

- Draw abstract graphic layers from complex landscapes.
- Assemble those layers to form spatial systems.
- Contextualise those systems in concrete history.
- Systematize (map) a building as an organic, evolutionary totality.

Teaching methods

This unit explores cartography's internal contradiction between sensuous perspective and rational plan, with a sceptical view towards claims of mathematical truth. The method borrows tools from art, urban planning, and history. Hand drawing guides the initial process of abstraction and layering. Planning offers a set of spatial figures as metaphors for the urban palimpsest. A dialectical approach to history orders those figures into a meaningful montage.
Theoretical content is provided through weekly lectures; practical assignments are supported by table reviews (scheduled in advance to cover the whole class every two weeks). Group discussions involve close readings of historical maps, as well as texts and films on cartography, landscape and environmental aesthetics. Special emphasis is placed on hand drawing, Adobe Illustrator and GIS, but no previous experience is required.

Expected student activities

Afternoon fieldtrip to the Geneva Botanical Gardens for life drawing exercises.

Expected Costs
Costs may vary according to personal investment and project specifics, e.g., printing costs depend on the size of maps and the amount of work produced by the students. An afternoon excursion to the Geneva Botanical Gardens and a list of

optional and compulsory drawing materials should cost ca. 60CHF.

Assessment methods

Continuous assessment: Intermediate exercises and class participation: 20%. Midterm review: 20% Final review: 60%. All lectures will be held in English, reviews and table crits may be held in English or French.

Supervision

Office hours	No
Assistant.e.s	No
Forum	No

Resources

Bibliography

• AURELI, Pier Vittorio. "Life, Abstracted: Notes on the Floor Plan." *e-flux Architecture (*October 2017).

• HARVEY, David. "The Experience of Space and Time." In *The Condition of Postmodernity*, 201-326. Cambridge, MA: Blackwell, 1990.

• MAÇÃES COSTA, Bárbara. "Conduit, Patio, Waste Mapping Environmental Relations in Bairro da Malagueira." PhD diss. École polytechnique fédérale de Lausanne, 2021.

Ressources en bibliothèque

• Life, Abstracted : Notes on the Foor Plan / Aureli

• Find recommended books at the Library

• Conduit, Patio, Waste / Costa

Notes/Handbook

Detailed syllabus with dedicated class readings available at this LINK. Reading ahead advised but not mandatory.

Websites

• http://ueucartography.com

Moodle Link

• https://go.epfl.ch/AR-476