



**Rotterdamse
Academie
van
Bouwkunst**

Studio 1.9: Urban Cookbook – recipes for sustainable cities
Theme: Sustainability

Year: 2009-2010 / 1st Semester
 Friday: 14:00-19:00
 Sessions: 4th, 11th, 18th, 25th of September, 2nd, 9th, 18th, 30th of October, 6th, 13th, 20th, 27th of November, 4th and 11th of December
 Final Review: Week 51/2009
 Study Load: 9 EC (252 hours, 70 of which during the Friday sessions)
 A/S points: 0A/9S
 Complexity: High
 Remarks: This studio is English spoken

Tutors: Martin Sobota & Thomas Stellmach

Content

The term 'sustainability' is everybody's favourite pet. It is being marketed, exploited, mangled, distorted, and hyped. We have seen one too many renderings with pasted on roof gardens, windmills and solar panels. Green is the new black. But there's more to the S-word than that. We have indeed to face the antagonism of limited capacity of our environment versus a philosophy of growth. To really confront ourselves with this new paradigm we have to widen and deepen our scope. We have to look beyond the cosmetic and the technocratic to see the bigger picture. We have to zoom out and understand systems working at a large scale to meet this challenge.

Certain sustainability concepts are well-established on the architectural level. The thicker the insulation layer, the more energy-efficient the building. But how does the shape of the building envelope influence the efficiency? What about the type of city fabric? The groundwork for a functioning sustainable system must be laid on the urban level. Urbanists have always considered social as well as economic issues and must now urgently answer also to ecological issues - concepts of mixed-use, short ways and high density are generally understood, but are often applied as boilerplate solutions.

Much of sustainability's parameters are ruled by nature's law. This enables us to use the powerful computational tools developed in the last decade to simulate and model complex systems rather than acting by rules of thumb. To model these systems we in turn must develop a thorough understanding of these laws. We must understand the cause-effect relationships in our environment but also their interrelation with economic and social aspects. We must attempt to break down our complex observations to precise instructions and understand the interdependencies of elements. The 'recipes' will simulate such computational tools.

The assignment will be to develop a prototypical urban design of 10 hectares, focused on a specific sub-system and place it on a 10 kilometre wide strip between the cities of Rotterdam and Amsterdam. The starting point for the design will be a combined study of eco-city proposals, recently established rating systems for urban sustainability as well as canonical urban fabrics. From these case studies we will draw the bigger picture, establish individual attitudes and develop the principles and methods for a sustainable urbanism: recipes for sustainable cities.

Planning and content per week or phase
week

Analysis	1	36	introduction & Assignment Studyreports Fabrics & Rating Systems & Ecocities	Overview Canonical Fabrics/LEED
			Assignment Studyreports Fabrics & Rating Systems & Ecocities	
Excursion?	2	37	Input lecture ARUP & Review Reports	Peter Mensinga
Excursion?	3	38	Presentation Reports 1 & Discussion (+Pres. F. Künzel)	Focus Ecology
Excursion?	4	39	Presentation Reports 2 & Discussion (+Pres. A. Reindorp)	Focus Social/Economy

System	5	40	Choice of specific aspect/interdependency system	
	6	41	Model the system	Descriptive
Principle	7	42	Play the system	Optimization/Variation
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Typology	8	44	Mid-Term Presentation	System presentation, Site choice and argument
Flow				
Site	9	45	Site concept approx. 10ha	Site needs to be chosen on given Corridor between RTM & AMS
	10	46	Review	
	11	47	Review	
	12	48	Review	
	13	49	Review	
	14	50	Review	
	15	51	Final presentation	

The students are encouraged to inscribe for the Lab "Smart Environments".

Excursion date & duration to be defined in dialogue with students. Destinations may be: Leidsche Rijn, Almere, Vauban/Freiburg or Malmö

Assessment Criteria

The project will be assessed on the basis of the learning goals and the final qualifications which are addressed in the studio.

Learning Goals

- developing an explicit catalog of criteria for urban design. They will do this on the basis of precedent-studies and group- discussion. In the design phase they will aim at establishing cause- effect relationships between their design components and their criteria.
- they will be trained to develop very precise instructions for their urban designs but also discover the limitations of such a generative approach. They will thus lay the foundations to use generative software for urban design and at the same time develop an understanding of the very fundamental aspects of urban planning.
- developing a personal specification of the very broad term 'sustainability'.

Final qualifications of the education of an architect which are addressed in this studio

MArch	1	2	3	4	5	6	7	8	9a	9b	9c	9d	9e	9f	9g	9h	9i	9j	10	11
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5. Formulates soundly based professional judgements that take into account the societal and ethical responsibilities that are connected with applying his or her own knowledge.
6. Works and studies independently, reflects on his or her own behaviour and innovates on those fields.
7. Makes use of spatial design as a research tool using research methods that are relevant for the professional design practice.
8. Makes use of relevant methods of research during the process of producing architectural projects and integrates the results of this research in (innovative) architectural concepts and designs.
- 9a. Makes use of appropriate knowledge of societal processes, developments and trends when producing architectural concepts, designs and projects and accounts for the use of this knowledge.
- 9f. Makes use of appropriate knowledge of urban design and town planning, and the methods and techniques that are used in those fields, when producing architectural concepts, designs and projects and accounts for the use of this knowledge.
10. Communicates effectively with others about a design using images, written and spoken words and reflects critically on these forms of communication and on the results of it.

Final qualifications of the education of an urbanist which are addressed in this studio

MUrb	1	2	3	4	5	6	7	8	9	10a	10b	10c	10d	10e	10f	10g	10h	10i	10j	11	12	13
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1. Develops relevant (innovative) urban design concepts and / or designs on different levels of scale, which meets societal, esthetical, technical, financial and legal requirements;
2. Collaborates effectively in a multidisciplinary (international) context with representatives of the other parties involved in the process of designing- and implementation and is able to influence the collaboration from his or her own expertise;
3. Interprets and assesses societal (social, economical, cultural and political) and spatial processes, developments and trends and translates these in urban design (spatial-programmatic) concepts, visions, strategies and / or designs;
4. Initiates, develops, analyses, interprets and/or judges a problem or task independently and is able to translate it from there in an urban design assignment;
6. Formulates soundly based professional judgements that take into account the societal and ethical responsibilities that are connected with applying his or her own knowledge;
7. Works and studies independently, reflects on his or her own behaviour and innovates on those fields;
8. Makes use of spatial design as a research tool using research methods that are relevant for the professional design practice;
9. Makes use of relevant methods of analysis and research when producing urban design project and integrates the results into (innovative) solutions as urban design concept and design;
- 10a. Makes use of appropriate knowledge of the history and theory of urban design and other related professions involved in town planning when developing urban design concepts, visions, strategies and / or designs and accounts for use of this knowledge;
- 10d. Makes use of appropriate knowledge of the humanities, economy, social and historical geography and ecology when developing urban design concepts, visions, strategies and /or designs and accounts for the use of this knowledge;
- 10e. Makes use of appropriate knowledge of urban physics and town planning laws and regulations and those concerning urban design when developing urban design concepts, visions, strategies and / or designs and accounts for the use of this knowledge;
- 10i. Makes use of appropriate insights into the urban design professions and its role in society when developing urban design concepts, visions, strategies and / or design, and accounts for the use of these insights;
12. Communicates effectively with others about a design and plan using images, written and spoken word and reflects critically on these forms of communication and on the results of it;
13. Reflects on his or her own urban design production and positions him- or herself actively in the urban design practice, making use of this reflection.