Short courses program

TU Delft, Faculty of Architecture, Department of Urbanism

EMU – European Post-master in Urbanism
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Contents

Fall Semester

Theories of Urbanisation, Regionalization & Networks

Design and Planning Support Tools

Regional Strategies & Territorial Governance

Spring Semester

The Sustainable City: Theories on Urban Design

Research and Design
FIG. 1.1 Rotterdam Central Station - Photo: Jurriaan Snikkers on Unsplash
Cities and urban regions can be seen and analysed as products of historical processes of networking between other cities and urban regions on a variety of different scales. Some would even say – like the historians McNeill and McNeill – that human history can be interpreted as the weaving of webs between the places where humans live right from the moment when agriculture made the formation of cities possible, about 11,000 years ago.

The present pattern of urbanisation in many parts of the world has a history which goes back at least 1,000 years and can be interpreted as a layered system of different cities taking the lead in different periods of time. The current hierarchy of cities seems to be dominated by a limited number of much-discussed global cities.

What is typical of 20th- and 21st-century cities is that they have become truly regional manifestations: nearby cities have become vast agglomerations or dense, polycentric networks of individuals cities and town interspersed by a large variety of spaces and places with different functions and a different morphology. This has lead to a bewildering vocabulary of concepts to catch up with the modern ‘metropolis’, from ‘megalopolis’ to ‘patchwork metropolis’.

The Course

The aim of this course of eight seminars is to help students engage with concepts such as the city, city networks, the world economy, globalization and regionalism, polycentric urban regions, strategic spatial planning, and mapping. The aim of examining these concepts is to see how they can be practically applied to urban studies, with particularly reference to the studio work.

By the end of this course students will be expected to demonstrate the ability to meaningfully engage with concepts such as the ones listed above (and others) but also, and more importantly, show that they are able to formulate their own ways of thinking about them. They will do this via a series of seminar discussions on set readings (students are free to propose their own). Students will then be expected to take a position on one or more of the topics and develop them into a position paper which they will present in draft form to receive feedback from the course leaders and their classmates.
Readings

Session 1: Introduction
Session 2: The City and City Networks

1. Lewis Mumford, The City in History, Chapter 1, ‘Sanctuary, Village, and Stronghold’.

Session 3: The World Economy: The Dutch Perspective

1. Immanuel Wallerstein, The Modern World-System I, Chapter 4, ‘From Seville to Amsterdam: The Failure of Empire’.

Session 4: Colonialism


Session 5: Globalisation

2. Saskia Sassen, Global Networks, Linked Cities, Chapter 4, ‘Hierarchies of Dominance among World Cities: A Network Approach’ (by David Smith and Michael Timberlake).

Session 6: Globalisation (cont.) and Regionalism

2. Andy Pike, et al., Regional Studies, Vol. 41.9, ‘What Kind of Local and Regional Development and for Whom?’.

Session 7: Planning


Session 8: Mapping

Suggested further reading

Urban Theory
– Peter Hall, Cities of Tomorrow, Chapter 10, ‘The City of Theory’.

City History

City Networks
– Michael North, The Expansion of Europe, 1250-1500, Chapter 5.5, ‘Urban Society’
– Michael North, The Expansion of Europe, 1250-1500, Chapter 12.4, ‘Urban Society’

Mapping

Planning

Learning Objectives

Through a course of eight seminars students should be able to demonstrate the following:

– Understand the readings.
– Understand concepts contained in them (e.g. Urbanisation, Regionalisation, Networks, etc.).
– Think critically (by taking position on these).

Products

Seminar presentations.
Peer review of one another’s work.
Final paper.
FIG. 1.2 Integration analysis of Rotterdam - The Hague
Introduction

The objective of this course is to introduce the students with different spatial analyses and design support tools. The students will be able to relate spatial data from various sources with place bounded socio-economic data through the use of GIS and Space Syntax. The framework of the course is set by the concept of geodesign which according to Campagna [2014] 'is an integrated process informed by environmental sustainability appraisal, that includes project conceptualisation, analysis, projection and forecasting, diagnosis, alternative design, impact simulation and assessment, and which involves a number of technical, political and social actors in collaborative decision-making.

The variety of tools introduced, allows the students to support planning and design decisions from the local to the regional scale. The students will be presented with a set of technological based tools for urban and regional analyses and modelling. The main focus will be on network analyses using the Space Syntax method and GIS supported methods. Moreover, the students get an introduction to basic computer aided spatial analyses and statistics. The students will get a chance to test and apply the knowledge gained through the technology course during the in-class exercises and through the assignments. Additionally, the students will be able to closely interact with a reflective attitude when using these tools in the planning and design process in their design and strategic planning projects or on their own research projects.

Space Syntax allows to analyse how the layout of the build environment influences the social, economic and environmental performance of places from the scale of the entire city to the scale of the individual street and building. Space syntax allows to measure the strength of spatial layouts, both existing and proposed, and to interpret how spatial layouts impact the way that people move, interact and transact in streets and buildings.

A geographic information system (GIS) is a tool that integrates hardware, software and data for capturing, managing, analysing, and displaying all forms of geographically referenced information. The GIS session focus each on different spatial aspects: demographical distribution, different forms of density and accessibility. Spatial research questions for all these aspects are developed and the students are introduced to the different tools that are provided by ArcGIS to investigate them.
The aim of this technology-based course is to underpin strategic design scenarios through using and developing representation and evaluation models. Likewise, the representation and evaluation models will be used to support the decision-making process in a transparent, scientific, accurate, accelerated and flexible manner. At the end of the semester students will be able to propose own ideas on how to approach problems during planning and design process through scientific grounded tools.

At the end of this course students should be able to:

- understand different (urban) design support tools and related software;
- perform spatial analyses and modelling of their research areas.
- use GIS tools to support their research process in a transparent, scientific, accurate, and flexible manner
- understand some of the key methodological problems, limits and restrictions of (urban) modelling and analyses.

**Assignment**

After each lecture the students must carry out individual or group assignments. The purpose is to use the software skills taught in each course. At the end of the semester the students must submit a report where they show the application of space syntax and GIS in their studio projects or own research projects. In the report a demonstration, discussion and reflection of the analyses of their sites and analyses of design proposals before and after proposed interventions must be carried out. Likewise, historical analyses of a town or city can also be carried out. Since students get inputs and evaluations during the workshops and exercises, students must also discuss and reflect upon the results from their findings in the report. Finally, the students must be able to write critically about the method’s limitations and possibilities in relationship to the evaluation of their proposed model.

All take home assignments during the sessions have to be added to the report followed with a text with description and critical reflections.

The aim of the assignments is to have insight based questions. The purpose is to combine the information given in the lectures and provided literature to analyse an urban area. Moreover, the application-based questions motivate the students to link the knowledge to specific situations, to discuss and solve a problem for a concrete situation.

The assessment consists of two parts. The first part is a presentation of each assignment during the lectures. The second part is an application of GIS and Space Syntax on the studio work or own research project. The grade each student gets is the average of the result of the assignments after each lecture and the final report. The students get assessed on their submitted report. Every assignment a student misses to deliver during the courses reduces the final grade by 0.5 points.

**Teaching**
The course consists of eight half-day sessions. Four sessions focus on the spatial modelling part with a main focus on the space syntax method, and four sessions focus on the GIS based spatial analyses and modelling. Parts of every session are used to integrate the different tools presented. Some lectures are accompanied by online tutorials the students are obliged to take as preparation before the class, as otherwise they will not be able to follow the class. A link to these tutorials is provided in the detailed session description.

All sessions consist of the following parts:

- Lectures where theoretical background and results from recent research are presented which relate theory to the tools of the course.
- Software demonstrations and thereafter small exercises for the students to test the learned knowledge immediately;
- Presentations and discussions of the take home assignments of the students.
- Discussion with the students to develop research questions and related methods and work-flows for the studio assignments/research projects.

**Evaluation**

The students will be evaluated on the following criteria:

- Ability to apply the methods on their strategic planning and design projects or own research projects (for the PhD students).
- Ability to use the method critically and to be aware of its possibilities and limitations.
- Ability to evaluate own design proposals or research projects critically.
Literature


Additional Reading

- POPPER K R, (1968) Objective knowledge: An evolutionary approach, Oxford University press. (Chapter 1, pp. 1-31)
- POPPER, K.R (1999)“All live is problem solving,” in Popper in search for a better world: Lectures and essays from thirty years, London: Routledge.

Data Sources:

All data for the course will be provided by the tutors and be downloadable from Brightspace. For further studies this sources of geo-data may be helpful. This list is far from complete and new sources appear every day.

Netherlands

- PDOK https://www.pdok.nl/en/node
- Open government data portal of the Netherlands
- Dutch geographic Data (Central statistics office)
- Data Archiving Network
- http://www.dans.knaw.nl/content/categorieen/nieuws/kadasterdata
- Digital collection of the TU-Delft Maproom

EU

- URBAN AUDIT http://www.urbanaudit.org/index.aspx
- EUROPEAN FORUM FOR GEOSTATISTICS http://www.efgs.info/data
- EEA(European Environmental agency http://www.eea.europa.eu/data-and-maps
FIG. 1.5 Municipality Building in The Hague - Photo: Marc Kleen on Unsplash
Spatial Planning and Regional Design in Europe

Methods of planning and regulating urban development vary dramatically from country to country (or even region to region). In some places ‘planning’ tends to be seen as a technical or scientific exercise conducted by professionals to deliver political priorities in the urban development process. In other places planning is seen as ‘governance of the territory’, seeking to resolve competition in society about how we use land and property. In most places it is a combination of both a scientific technical process and a political negotiation process – and ideas about this combination (and other ways of seeing planning) vary over time. There are other fundamental differences in attitudes to the need for spatial planning in society from those who advocate a planned society to those who favour a liberal approach where the market decides. These questions are fundamentally linked to the exercise of power in society and the distribution of costs and benefits of urban development to different groups.

In practice, shaping spatial development through strategic planning and design is fraught with difficulty, even in countries with a strong and effective government. Increasing mobility, the dispersal of economic activity, extended networks, competing political priorities and market-oriented objectives present obstacles to coordinated development. Whilst few people doubt the need for some form of planning but there is a constant struggle over who controls planning.

This course provides a map of different notions of planning and the methods and techniques of planning that are associated with each. The emphasis is on strategy making, and the broader governance of territory. This includes what is called in the Netherlands ‘regional design’. There is a strong strand of design and the use of spatial concepts in Dutch spatial planning that has been influential in other countries. We encourage you to learn from each other about ideas and practices in different parts of the world.

We draw heavily on European experiences, particularly the Netherlands, but also other examples from around the world. In Europe, during the 2000s the tendency has been in many countries for planning to become more ‘strategic’, that is, to seek to coordinate the many diverse influences on urban development. The emphasis has been on attempts to reconcile the many competing goals for cities and regions, including economic prosperity, social cohesion and sustainable development. Strategic planning has also been used more to combine the efforts of state, market and civil society in managing territories. Spatial strategy making has become more
commonplace, promoting particular spatial configurations in the interests of sustainable development.

The value of strategic planning and regional design is always questioned, especially those who favour a more liberal market-oriented approach to urban development and an ad hoc ‘project by project’ approach to regulation. During the 2000s in Europe a neoliberal ideology combined with very complex spatial development trends has tended to weaken traditional approaches to planning and there are attempts to find alternative ways of resolving the tension between planning and the market. There have been calls for more collaborative working in plan making but this is very difficult to realise at the strategic level.

Objectives

The objectives of the methodology course are:

- To examine experience in strategic spatial planning and regional design in Europe and other parts of the world so as to gain a critical understanding of theory and practices.
- To ask and help students to answer some deceptively simple questions: What is a plan? What is a strategy? What does participation mean? How are plans made and by whom? How can plans influence spatial development?
- To examine innovative practices involving a more effective collaborative approach to strategic planning, and examples that are less successful.
- You can use this understanding to help design your own strategic planning tools and process in practice. There is an accent on approaches that are relevant the studio work, and on experience in the Netherlands. However, we take care in making international comparisons and transferring ideas from one place to another.

Learning Aims

At the completion of this course students will be able:

- To design forms of strategic intervention – and recognise that these will vary depending on the place and the problem at hand;
- To explain why societies invent planning and why it survives despite repeated challenges;
- To apply theory to real examples of spatial planning practice and its influence on spatial development;
- To develop a critical but constructive standpoint on the theory and practice of spatial planning.
Content

The course is made up of a series of lectures and workshops, supported by guided reading and by critical investigation of examples familiar to students.

Session Topics

Why do governments produce regional strategies? What is the role of ‘spatial planning’? What is the meaning of the many related terms – spatial planning, territorial governance, city and regional planning, town and country planning, environmental planning, land use planning, regional design – and others?

What are the arguments for and against strategic spatial planning and regional design? Who are the winners and losers from state planning actions? How can we ensure a progressive planning practice? Does spatial planning have values?

How do approaches to spatial planning vary from place to place? How can we summarise different types, styles or models? Are there basic principles that might guide practice in any place and do some work better than others?

What are the main concepts and terms used in planning and how can we differentiate between visions, scenarios, strategies, plans, policy, programmes, projects?

What is regional design? What contribution can this make to managing territories? Are there better and (or weaker) examples of strategic planning and design that we can learn from? What is the experience in spatial planning in other European countries with a long record of spatial planning? How does that compare with wider international experience?

What is the meaning of success in spatial planning? How much of a regional strategy or plan needs to be implemented to be successful? How can we measure the conformance of development to plans or the performance of plans?

Student presentations – the role of strategic spatial planning and regional design in explaining spatial development.

What are the current trends and future prospects for regional strategic planning and design in the context of neoliberalism, privatisation and localism?

Assignments

Students critically evaluate the contribution of regional strategies, land use planning and territorial governance to the spatial development of a small part of a territory. Your starting point is a location in a metropolitan region of between about 1 and 5km². The location should be chosen to reflect interesting questions related to the studio, such as a mobility node, development corridor, the metropolitan fringe, or an area of infrastructure related transformation. You explain the pattern of spatial
development in relation to spatial policy and other drivers. You will evaluate the contribution of spatial planning by comparing the evidence of spatial development with past and current plans, and explain any differences. (More guidance is given in the course)

The findings will be the subject of:

i) presentations where two students compare their results from two different places; and
ii) a written illustrated report of about 2,000 words with the title: ‘a critical evaluation of the role of strategic spatial planning in the development of [your chosen place].

Evaluation

Students will be assessed according to:

– demonstration of knowledge introduced in the course and wider reading about the principles of strategic planning;
– ability to undertake critical analysis of practice using theoretical and conceptual frameworks;
– willingness to participate and quality of participation in class sessions and team working;
– ability to express arguments and ideas in writing and graphic forms (allowance is made for those for whom English is not the native language).

Tutors/assistance

The course is led by Prof. Vincent Nadin with contributions from Dr Dominic Stead and Dr Marcin Dabrowski.

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Key reading

A longer reference list will be available in clas. For the longer references specific advice will be given about the most relevant sections to read. References that are not available through the library will be made available on Brightspace website.

Starting points are:

Committee on Spatial Development (1999) European Spatial Development Perspective: Towards Balanced and Sustainable Development of the Territory of the EU, Luxembourg, Office for the Official Publications of the European Community. (provided on the Web)

Other key references:


FIG. 1.8 Historic images of Rotterdam and Scheveningen- Source: Detroit Publishing Co - Public domain
The adaptation paradigm plays an increasingly critical role in the development of cities and our cultural landscapes. Concepts introduced by the Landscape Urbanism movement propose the diversity and dynamics of nature as a new structural element for cities and regions that embeds flexibility into the urban system. However, the programming, operation, performance and affordability of landscape elements acting as infrastructure and their values for society and ecosystems are yet to be fully explored in urbanism research and practice.

Course
During this course we will explore the dynamics of urbanised landscapes and the role of adaptation (and its limits), resilience (anticipation, robustness), transition and transformation, dynamic performance and affordance, sustainability and liveability in spatial planning and design. Methods and techniques will be explained to describe and assess physical, ecological, socio-economic and political systems focusing on narratives and values. The theoretical background will be given in both scientific articles and in a series of lectures and workshops on the transformation of landscapes and inner cities. Before every lecture, students in small groups are required to read selected articles. Following every lecture, the groups are requested to present and discuss their findings and views on the articles. To conclude this course, students are requested to write an essay on a specific topic, which is addressed during the course and combine it, as theoretical framework, to the design project. The essay has approx. 3000 words and pictures. Students that are registered in this course are required to attend all lectures and deliver the essay by the end of the course.

Schedule
Week 01 Course introduction
Week 02 System dynamics
Week 03 Narratives & values (socio-cultural, economic and policy analysis) / (sustainability & liveability)
Week 04 Adaptivity & resilience
Week 05 Transition & transformation
Week 06 Dynamic performance & affordance
Week 07 Advances in landscape urbanism - theory & methods
Week 08 Hand in draft theory essay - Review
Design oriented research strategies in Urbanism

The course provides students with academic knowledge and skills in order to conduct and understand science based research and design in landscape architecture and urban design. The course explores basic research issues and concepts, as well as specific strategies for research and design in the urban landscape and focuses on research methodology and criteria. The course aims at building a research framework for the graduation studio/thesis.

Overview and structure of the course
The course consists of a seminar design-related research methodology, a workshop methods and techniques and writing a methodology paper. It aims to provide the students with (1) theoretical and practical clues for developing a critical academic attitude towards research and design in landscape architecture and urban design, and (2) in-depth understanding of important theories, methods and techniques in the field, with the focus on design-related research. The course consists of different assignments that deliver material that can be discussed in the group and helps to develop an individual, and knowledge-based design attitude. On one hand it provides some specific methods and techniques for urban design and landscape architecture, and on the other, it provides backgrounds on general academic research tools and criteria. In this respect the course contributes to the development of a research framework for the graduation thesis/project.

During the seminar different texts in contemporary theory and practice of landscape architecture and urban design are examined and discussed. These texts are organized and selected around three interrelated topics. It starts by elaborating Landscape architecture and urban design as practical science addressing different academic perspectives, critical thinking and criteria for research quality. In Design thinking in landscape architecture and urban design, design is put forward as important research strategy elaborating aspects of the design process, creative thinking and the role of drawing. Approaches in landscape architecture and urban design addresses fundamental principles of study and practice for design-related research. It considers landscape as a living system (process), as a scale continuum (context), as a 3D-environment (space) and as a palimpsest (history). Three hands-on workshops provide the students with some practical design-related research methods and techniques. The exercises promote
the dialogue between academic research and the design practice in landscape architecture. Practitioners and researchers from the field will introduce and guide the students via an assignment through different design-oriented approaches such as the construction of spatial scenario’s, strategy of 2 networks and research-by-design.

**Active learning methods and assignments**

Description of active learning methods and assignments that will be used in the course:

**Seminar:** As scheduled there are thematic sessions of three verbal presentations. Three groups of two students prepare and deliver a verbal presentation of 10-15 minutes addressing the assigned text. During the presentation the text will be summarized, analysed, discussed and illustrated with examples. Two other students are asked to prepare questions and give a critical reflection.

**Workshop:** As scheduled there are thematic workshops with an introductory lecture followed by a short assignment focusing on the application of a particular method or technique. The hands-on assignment are elaborated in groups of 2 students and guided by an expert in the field. The outcome serves as tool to evaluate and reflect on the applicability of the method.

**Methodology paper:** Finally, every student writes a methodology paper of at least 3000 words. The student selects, contextualises, analyses/applies and discusses an appropriate design-related research methodology which was discussed during the course or come up with another suitable alternative. The paper reflects in-depth understanding, critical reflection and academic attitude towards design-related research methodology in landscape architecture. This critical reflection will lead to a sharper understanding of their own abilities and knowledge, makes the individual way of working more transparent, and helps to develop an individual attitude in research and design and take position.
Learning objectives

1) Identify landscape architecture and urban design as academic design discipline with its own theories, methods and techniques;
2) Discover the use of selected design-related research methods and techniques by employing them in studio relevant exercises;
3) Compare and discuss different landscape architecture and urban design-related research strategies and principles of study and practice;
4) Select and use suitable design-related research strategies and techniques in a particular context (e.g., graduation project);
5) Write a methodology paper exposing in-depth understanding and a reflective attitude towards design-related research strategies and principles of practice.

The introduction lecture addresses LO1, the workshops LO2, the seminars LO3 and the methodology paper LO4 and LO5.

Literature
