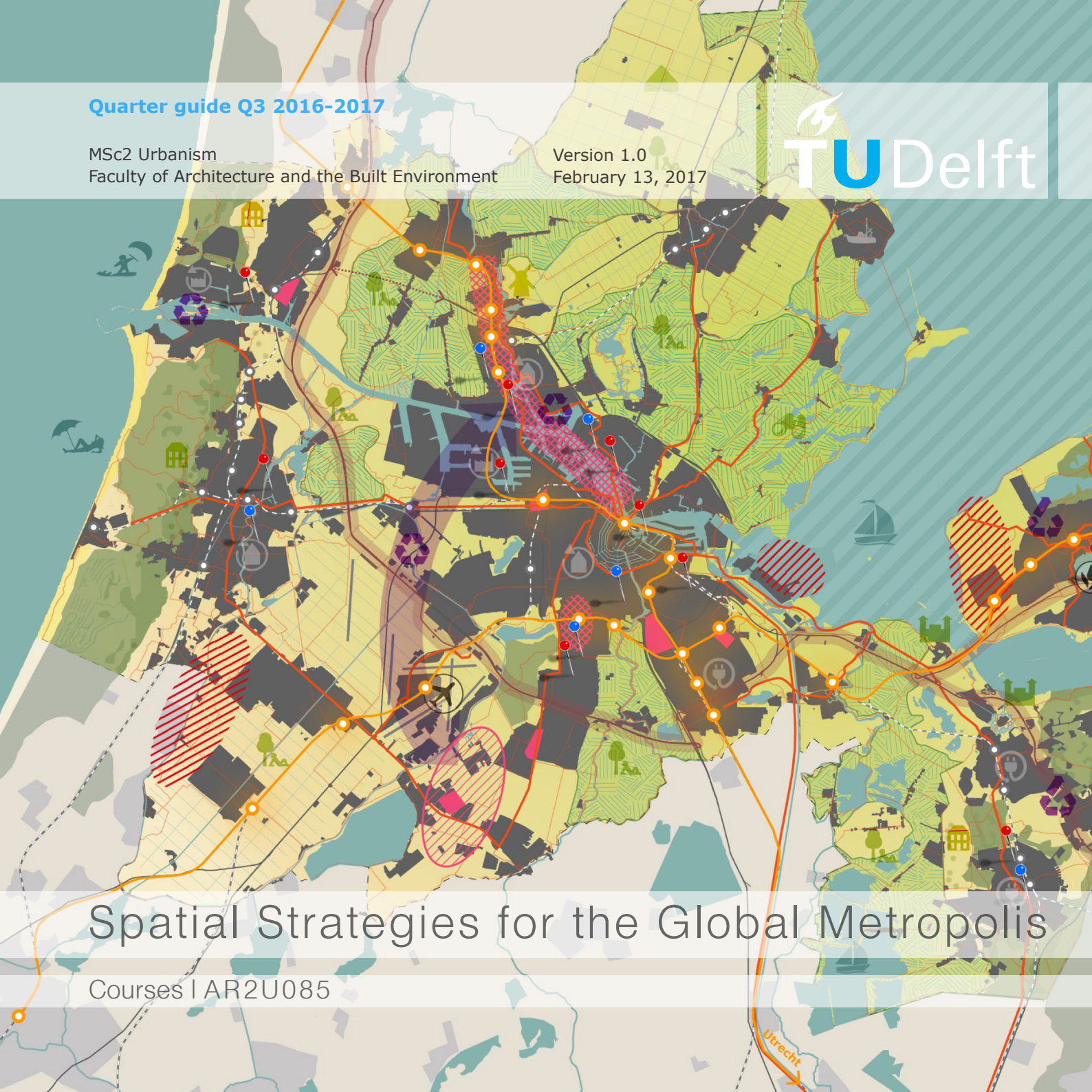
Quarter guide Q3 2016-2017

MSc2 Urbanism
Faculty of Architecture and the Built Environment

Version 1.0
February 13, 2017

TU Delft



Spatial Strategies for the Global Metropolis

Courses | AR2U085

Colofon

Quarter Guide 2016-2017 Spatial Strategies for the Global Metropolis

Version 1.0
Date: 13th January, 2017

MSc2 Urbanism

Responsible Chairs:	Spatial Planning & Strategy
Quarter coordinators:	dr. Lei Qu ir. Verena Balz ir. Francisco Colombo
Course instructors:	ir. Alexander Wandl dr. Roberto Rocco
Student Assistant:	Vera van Wijk

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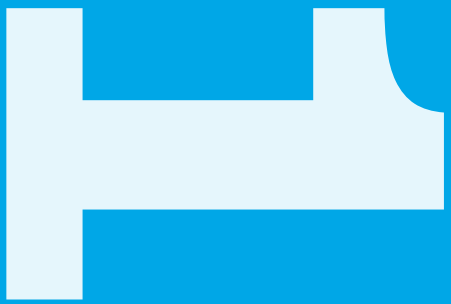
General information



1.1. INTRODUCTION

Urbanism is concerned with understanding the spatial organisation and dynamics of the built environment and with inventing new ways to maintain spatial quality and equality. The MSc Urbanism education develops core knowledge and skills as a basis for innovative practical and theoretical applications. It provides students with typological knowledge and insights into urbanism tools and techniques. Urbanism at the TU Delft is a scientific design education, characterized by interaction between thinking (analysis and reflection) and doing (the speculative/intuitive imagination of spatial interventions).

Regional design is the core theme of the third quarter of the MSc1/2 Urbanism curriculum. This is urbanism at a high level of scale. The way global economic powers influence social, cultural and environmental development is best sensible at this level. Global influence results in the inability to fully control spatial development. Regional design is about steering development in the right direction. Regional design -as the exploration of plausible futures- promotes and debates solutions to problems in a given context. It is a reflection on prevailing spatial conditions, political agendas and planning regimes, meant to improve good (democratic) decision-making and to inform long-term strategic planning approaches to desirable spatial change.

The responsible chair of this quarter is Spatial Planning & Strategy. It emphasizes on a combination of knowledge from the fields of design and planning. The 2016 - 2017 edition of *Spatial strategies for a Global Metropolis* is related to the ongoing Horizon 2020 research project *Resource Management in Peri-urban Areas: Going Beyond Urban Metabolism* (REPAiR), funded by the European Union under the Horizon 2020 framework.

1.2. THEME & BACKGROUND

Theme

Regional design is concerned about agglomerations of dependent places, often stretching across multiple administrative boundaries. It considers costly public works and policies whose effects diffuse across intricate spatial networks in ways that are difficult to foresee. Regional design solutions are likely to cause conflict in societal and political domains. Any design step taken needs to consider an audience of critical observers who are ready to express their stakes and defend their interests forcefully; any step requires societal support and verifiable political consent. Regional design is likely to be a collaborative effort: practices usually include intense negotiation among public, private and civil actors. The motivation of the third MSc Urbanism quarter is to teach students how to design in such an 'arena of struggle', constituted by multiple perceptions of the built environment as well as rules and procedures to resolve conflicting interests.

The third quarter of the MSc1/2 Urbanism curriculum emphasizes on (1) a comprehensive, evidence-informed understanding of regional spatial structures and development trends, (2) an understanding of interrelations among design, planning and politics and (3) communication skills that are required in collaborative decision-making. During the studio Spatial Strategies for the Global Metropolis students use this knowledge and skills to conduct a regional design. The design process knows two products, notably (1) a spatial vision and (2) a development strategy. Products are interrelated. The vision represents a desirable spatial future; it serves as a guiding normative principle for the development strategy that sets out a path towards spatial change, by means of spatial interventions that are ordered over a time and associated with capacities of actors in development. The course Research & Design Methodology for Urbanism focuses on a theoretical understanding of design, planning and research. Students write a research plan on the grounds of this understanding. Important criteria in the assessment of design and research proposals are their critical consideration of spatial and institutional circumstances and the strength of their argument for change.

Background

The context of the Q3 quarter is a globalized world in which there is competition for investment into economic development. The importance of regions in this competition increased in the 1980s, due to paradigmatic technological change (e.g. internet and transport technology), increasing market liberalization and integration (e.g. the emergence of the European single market) and growing cooperation across the boundaries of nation states (e.g. UN and EU). Initially autonomous regionalization brought high welfare to some metropolitan areas. Planning questions arose from an observation of these benefits: How can regional economic competitiveness be enhanced? How to create a critical mass of economic opportunities, jobs and facilities? The early 2000s saw an intense increase of policies and direct investment to enhance the economic performance of regions. In recent years negative outcomes of these measures (e.g. social segregation, a loss of cultural heritage, environmental costs, shrinkage) gained more attention. New policy concepts to balance economic, social and environmental gains and losses were developed, among them the concept of 'circular economy'. The concept emerged as a critique on the linear model of economic growth- a 'take-make-dispose' model that neglects environmental costs specifically. It emphasizes on a conscious use and re-use of natural resources in production and consumption circles.

Photography: Bas Princen, 2004. Artificial Arcadia. Rotterdam: 010

1.3. QUARTER PROGRAM

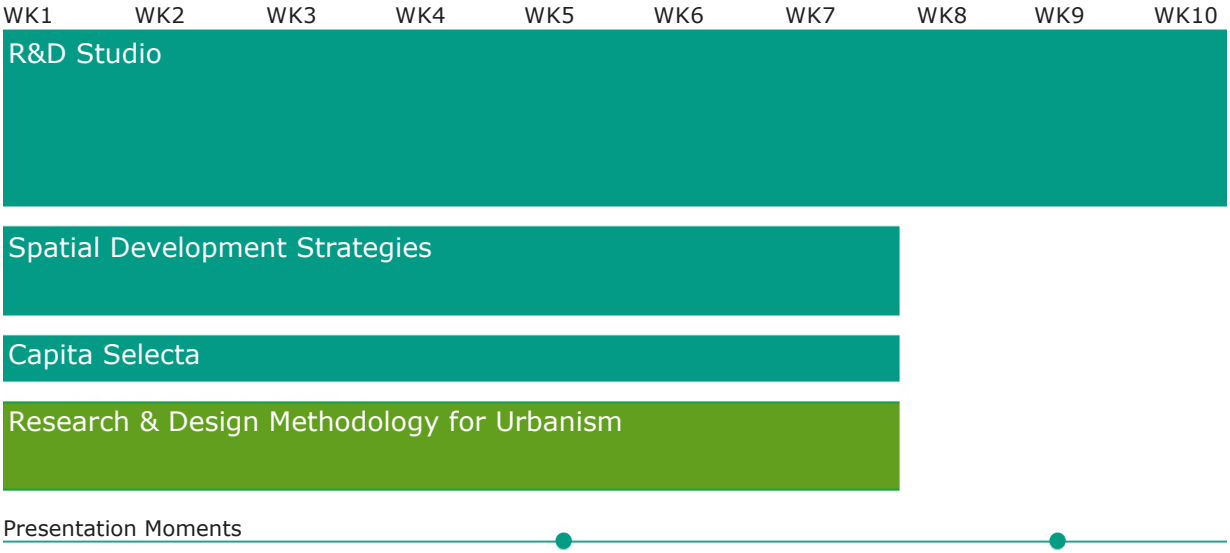


Figure 1. Simplified Schedule Q3

Components of the Quarter

The R&D studio *Spatial Strategies for the Global Metropolis* is the core activity of the Q3 quarter. Students conduct a regional design in groups of 4-5 students. The thematic exercises of *Spatial Development Strategies (SDS)* are an integral part of the studio. Knowledge on regional design and planning approaches will be provided during lectures and applied during workshops. SDS assists in and steers studio work. The Capita selecta lecture series also adds to the studio. Practitioners in regional design and planning discuss their professional practices with students and provide them with practical information concerning the sub-regions they are engaged with. Parallel to the R&D studio runs the course *Research & Design Methodology for Urbanism*. The course focuses on a theoretical understanding of design, planning and research. Students learn to position their work in a theoretical debate and write a research plan on these grounds (figure 1)

1.For more up to date information about the Msc1 Urbanism and the other semesters, please refer to the Infonet-section of the Faculty's website.

(http://campus.bk.tudelft.nl)

R&D Studio

Week 1: Analysing regional planning as well as circular economy policies. Identification of key flows in the AMA region and developing individual interest. Initial framing and defining the assignment.

Week 2: Analysing regional spatial structures and it's relation to resource flows and their systems. Developing first ideas for a more circular development of the AMA in groups.

Week 3: Analysis, diagnosis, framing and defining the assignment

Week 4: Research and Design development

Week 5: Finalizing spatial visions and mid-term presentation

Week 6: Defining key interventions (projects/ policies)

Week 7: Development strategies: actors and timeline

Week 8: Finalizing and production

Week 9: Final presentation

Week 10: Assessments and feedbacks

Spatial Development Strategies (SDS)

Week 1:Introduction to spatial planning andregional design

Week 2: Tools/methods for regional analysis in line with Circular Economy

Week 3: Policies and projects: Regional design in theory and practice

Week 4: Methods and techniques for regional design and the great planning game

Week 5: Actor analysis

Week 6: Strategic landscape interventions

Week 7: Phasing strategies

Capita Selecta: Dutch Regional Design and Planning

Week 2-7: Discussion on regional design and planning practices

Research & Design Methodology for Urbanism

Week 1: Introduction to philosophy of science and theoretical framework/ logics of enquiry

Week 2: Starting up your research

Week 3: Traditional tools and skills for academic research/ connection to design-based practice

Week 4: How to write an academic paper

Week 5: Communication and dissemination of your work/ Ethical issues

Week 6: The ethics of the built environment/ knowledge, practice and politics

Week 7: Theory of democracy/ how does democracy impact the planning and design activity?

1.4. QUARTER SCHEDULE

Spring Semester (2016-2017)

WK 1	MO 13/02	TU	WE	TH	FR
1 2 3 4	**Introduction**	AR2U085: R&D Studio	AR2U085: **Excursion 08.30-18.30**	AR2U085: self study studio	AR2U085: R&D Studio
5 6 7 8	AR2U085: SDS Lectures/Workshop	AR2U085: R&D Studio		AR2U085 Methodology Lecture	AR2U085: R&D Studio

WK 2	MO 20/02	TU	WE	TH	FR
1 2 3 4	AR2U085: self study studio	AR2U085: R&D Studio	AR2U085: SDS Lecture/Workshop	AR2U085 self study studio	AR2U085: R&D Studio
5 6 7 8	AR2U085: self study studio AR2U085: Capita Selecta	AR2U085: R&D Studio	AR2U085: self study studio	AR2U085: Methodology Lecture	AR2U085: R&D Studio

WK 3	MO 27/02	TU	WE	TH	FR
1 2 3 4	AR2U085: self study studio	AR2U085: R&D Studio	AR2U085: SDS Lectures/Workshop	AR2U085: self study studio	AR2U085: R&D Studio
5 6 7 8	AR2U085: self study studio AR2U085: Capita Selecta	AR2U085: R&D Studio	AR2U085: self study studio	AR2U085: Methodology Lecture	AR2U085: R&D Studio

WK 4	MO 06/03	TU	WE	TH	FR
1 2 3 4	AR2U085: self study studio	AR2U085: R&D Studio	AR2U085: SDS Lecture/Workshop	AR2U085: self study studio	AR2U085: R&D Studio
5 6 7 8	AR2U085: self study studio AR2U085: Capita Selecta	AR2U085: R&D Studio	AR2U085: self study studio	AR2U085: Lectures/workshop	AR2U085: R&D Studio

WK 5	MO 13/03	TU	WE	TH	FR
1 2 3 4	AR2U085: self study studio	AR2U085: R&D Studio	AR2U085:SDS Lecture AR2U085:self study studio	AR2U080: self study studio	AR2U085: R&D Studio **Midterm Presentation**
5 6 7 8	AR2U085:self study studio AR2U085: Capita Selecta	AR2U085: R&D Studio	AR2U085: self study studio	AR2U090: Methodology Lecture	

Please Note:
Any changes in schedule and location of rooms will be informed via Blackboard


WK 6
MO 20/03
TU
WE
TH
FR
AR2U085: self study studio
AR2U085: R&D Studio
AR2U085: SDS Lecture/Workshop
AR2U080: self study studio
AR2U085: R&D Studio
AR2U085: self study studio
AR2U085: R&D Studio
AR2U085: self study studio
AR2U085: Methodology Lecture
AR2U085: R&D Studio
AR2U085: Capita Selecta
WK 7
MO 27/03
TU
WE
TH
FR
AR2U085: self study studio
AR2U085: R&D Studio
AR2U085: SDS Lecture/Workshop
AR2U080: self study studio
AR2U085: R&D Studio
AR2U085: self study studio
AR2U085: R&D Studio
AR2U085: self study studio
AR2U085: Methodology Lecture
AR2U085: R&D Studio
AR2U085: Capita Selecta
WK 8
MO 03/04
TU
WE
TH
FR
AR2U085: self study studio
AR2U085: R&D Studio
AR2U085: self study studio
AR2U085: self study studio
AR2U085: self study studio
AR2U085: Methodology Hand in Assignment
AR2U085: R&D Studio
AR2U085: self study studio
AR2U085: self study studio
AR2U085: self study studio
WK 9
MO 10/04
TU
WE
TH
FR
AR2U085: self study studio
AR2U085: R&D Studio Final Presentation
AR2U085: self study studio
AR2U085: R&D Studio Hand in Booklet
Good Friday
National Holiday
AR2U085: self study studio
AR2U085: self study studio
WK 10
MO 17/04
TU
WE
TH
FR
Easter
National Holiday
AR2U085: R&D Studio Feedback on Studio

1.5. ADDITIONAL DATA

Student-Assistant
When questions concerning the organization in this quarter of the MSc Urbanism arise, please contact the Student-Assistant.

Name : Vera van Wijk
E-mail : V.L.vanWijk@tudelft.nl
Phone : +31 (0)6 42996893

Secretariat Urbanism
If students have questions about how the department of Urbansim works (e.g. who is who, what are responsibilities of staff members, where can they be found), they contact the Urbansim secretariat.
Name: Margo van der Helm or Danielle Hellendoorn.

Room:00.West.170.
Phone:015- 2781008
E-mail:Urbanism-bk@tudelft.nl, D.Hellendoorn @tudelft.nl, J.M.vanderHelm@tudelft.nl
Open: daily from 8.30 till 17.00

Study Advisor
In case students face problems that cannot be solved with staff members involved in Urbanism education, they address the study advisor. Problems may concern personal study and life circumstances (e.g. health conditions) or circumstances that are the result of unethical behavior of staff. The study advisor is independent and works on a basis of confidentiality. He/she assists in the resolution of problems. In case problems arise, students are advised to consult the advisor in time.

Room: BG East 080-060
E-mail: Studieadviseurs-BK@tudelft.nl
Open: Tuesday and Thursday from 12:30 to 13:30

International Office
Especially for foreign students there is a service called the International Office.

Room: BG.Oost.240
E-mail: Internationaloffice-bk@tudelft.nl
Open: Monday till Friday from 12.30 till 13.30

Blackboard
Blackboard (http://blackboard.tudelft.nl) is the most important means of communication among students and teachers in Urbanism education.
Using the Blackboard enables students to:

- exchange digital documents/ information with other students
- get announcements about courses/hear about last minute changes in schedule
- download documents you need for the course.

Scalability map, In: Circle Economy, .FABRIC, TNO & Gemeente Amsterdam 2016. Circular Amsterdam - A vision and action agenda for the city and metropolitan area. Amsterdam: Gemeente Amsterdam.

COURSES

2

2.0. CONTACT INFORMATION

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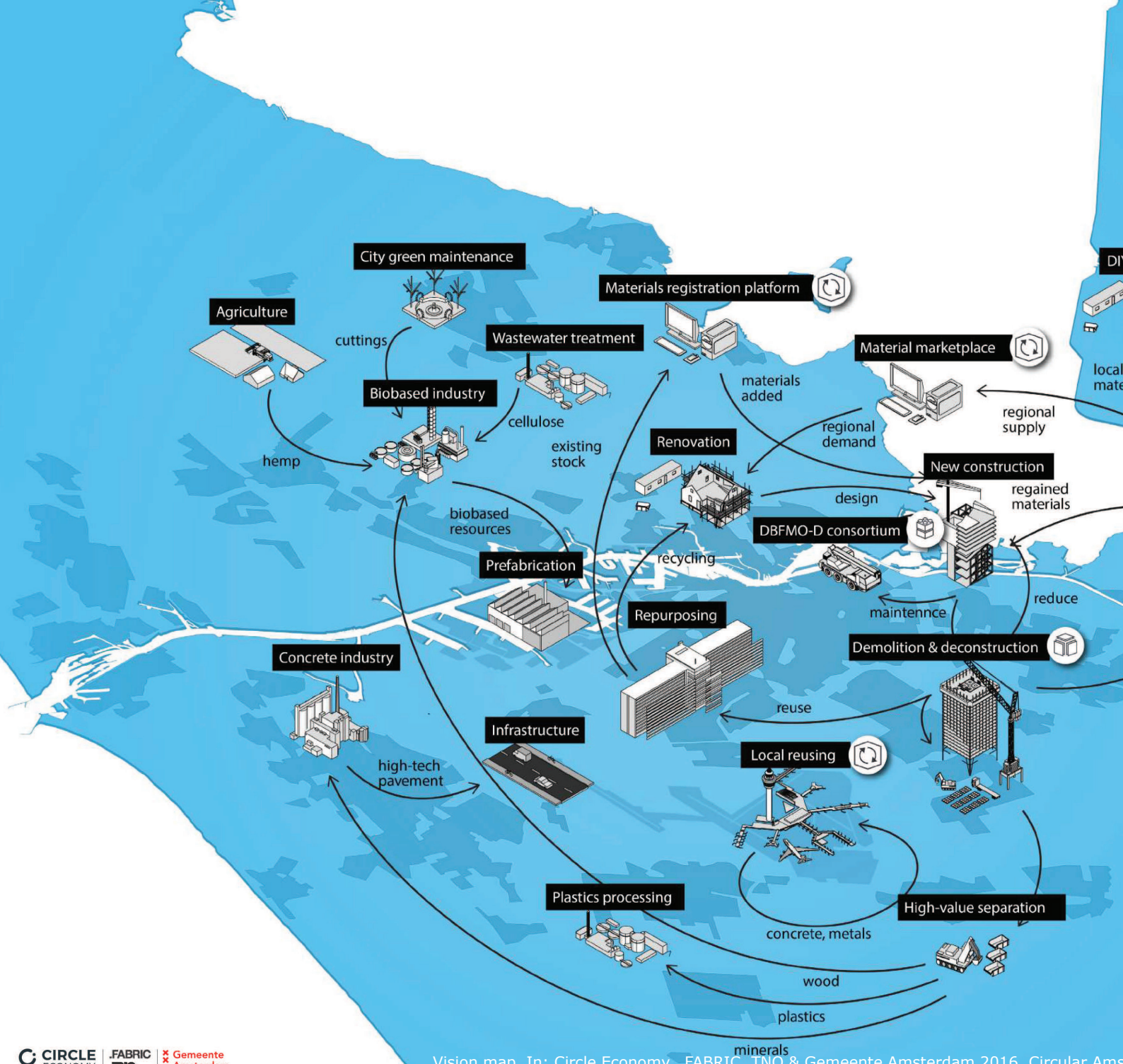
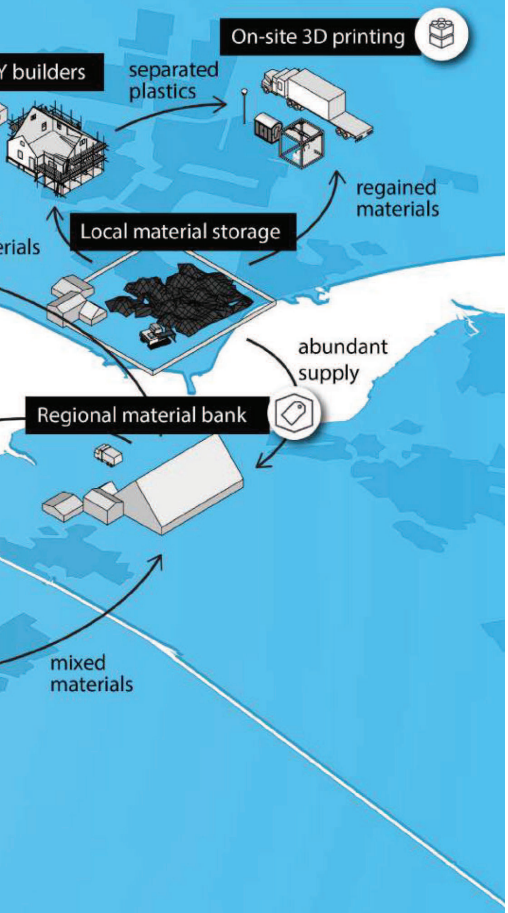


Vision map, In: Circle Economy, .FABRIC, TNO & Gemeente Amsterdam 2016. Circular Ams
city and metropolitan area. Amsterdam: Gemeente Amsterdam.



2.1. R&D STUDIO

Instructors
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Capita Selecta
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Course Load	**: 280 hours**
Contact Hours	: 100 hours
Independent Study	: 180 hours

2.1.1 Location

The region at the focus of the 2016-2017 round of the course Spatial Strategies for the Global Metropolis is the Amsterdam metropolitan area. AMA encompasses the city of Amsterdam and 36 smaller municipalities. It is located in the North of the larger polycentric Randstad region and spans across the boundaries of two provinces (North Holland and Flevoland). Its total population is about 2.4 million. Regional design assignment of this quarter addresses the peri-urban areas of AMA (see figure 2).

Peri-urban areas lie in-between the densely urbanised core of the bigger cities. They are characterized by a low population density and an intermingling of built and unbuilt features. Typical land-uses are industrial or commercial uses, port areas, airports, mineral extraction sites, waste sites, port and leisure facilities, and land associated with major roads and railway tracks. Uses are often not clearly articulated, not intense and/or obsolete. Peri-urban areas form the 'backyards' of metropolitan areas. As mentioned by European Parliamentary Research Service (EPRS, https://epthinktank.eu/), to cope with the ongoing trends and challenges such as population and climate change, efficient use of natural resources, equal access to public services etc., cooperation between urban, peri-urban and rural areas is essential, which should be mutual benefit, managing functional linkages for economic development and better quality of life.

Figure 2. A rough delineation of peri-urban areas in the AMA. Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, swisstopo, and the GIS User Community.

2.1.2 Thematic frameworks

Circular economy

The concept 'circular economy' provides initial guidance for the formulation of regional design proposals. As many natural resources are finite, the concept emphasizes on environmentally and economically sustainable ways of using them. The concept encourages integral thinking: it not only includes thoughts about the natural environment but views a conscious use and re-use of resources as an opportunity to enhance economic productivity, social cohesion, cultural expression and spatial quality. Over recent years, the concept gained attention in a variety of planning efforts. The European commission states: 'In a circular economy the value of products and materials is maintained for as long as possible; waste and resource-use are minimised, and resources are kept within the economy when a product has reached the end of its life, to be used again and again to create further value. (The circular economy) model can create secure jobs in Europe, promote innovations that give a competitive advantage and provide a level of protection for humans and the environment that Europe is proud of. It can also provide consumers with more durable and innovative products that provide monetary savings and an increased quality of life. [European Commission Directive 2008/98/EC].' According to the Ellen Mc Arthur foundation a circular economy rests on three principles, each addressing several of the resource and system challenges that industrial economies faces:

- Preserve and enhance natural capital (…) by controlling finite stocks and balancing renewable resource flows.
- Optimise resource yields (…) by circulating products, components, and materials at the highest utility at all times in both technical and biological cycles.
- Foster system effectiveness (…) by revealing and designing out negative externalities (external cost, a cost that is suffered by a third party) or unintended effects.

The 2016 - 2017 edition of Spatial strategies for the Global Metropolis is related to the ongoing Horizon 2020 research project *Resource Management in Peri-urban Areas: Going Beyond Urban Metabolism* (REPAiR). The working definition of circular economy in this project is: 'Circularity accommodates economies based on resource cycles that flow through man-made and natural systems without losing the value represented by the resource in question – or the function it supports. This value can manifest itself in multiple ways: not based on monetary principles alone but addressing social, ecological and economical aspects. Important in this notion is the establishment of (sub-) systems that enable restorative processes at their highest utility and value, while phasing-out waste production and down-cycling. Moreover, changes in the system should not incite negative externalities, rather the opposite: when possible it should provide positive externalities. Of particular interest for this studio in this respect are impacts on spatial quality. A circular economy (CE) is a means to an end, not a goal in its own right. The goal could be described as achieving healthy, just, resilient, regenerative urban and peri-urban areas and area development. CE can contribute to this by avoiding linear processes and mechanisms that hinder the establishment and maintenance of such an ideal. In the transition, sub-optimal solutions could precede more far-reaching solutions, as long as lock-ins are avoided. For this reason, knowledge & innovation feedback loops are highly important. (REPAiR working paper 2017)

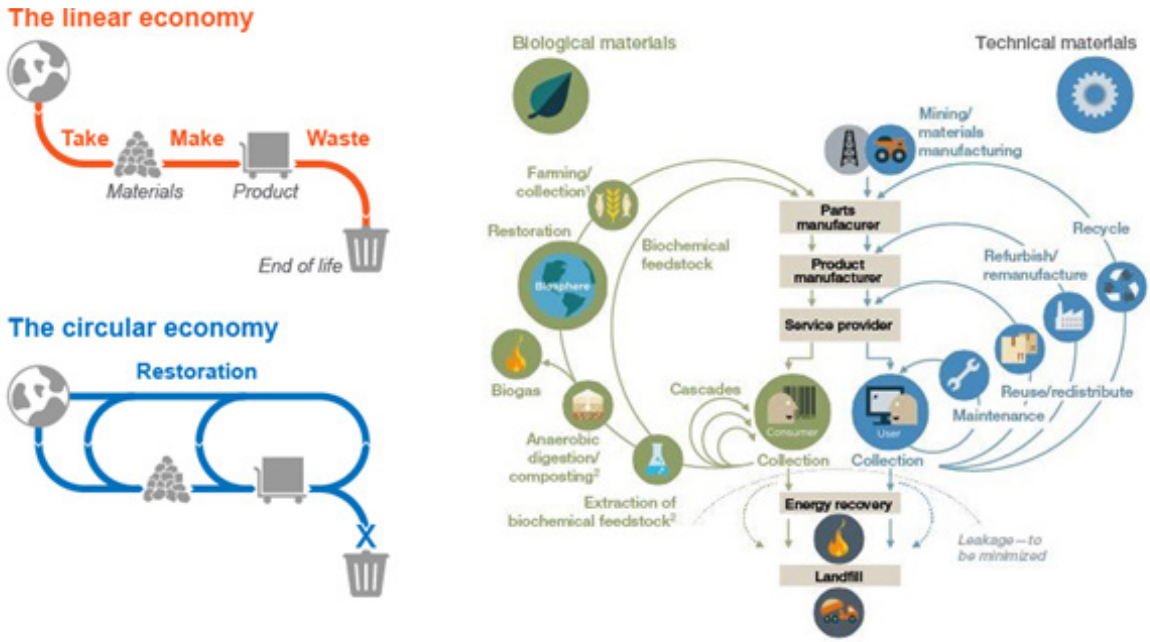


Figure 3. The basic principle of the circular economy according to the Ellen Mc Arthur foundation. source: https://www.ellenmacarthurfoundation.org

Circular economy in AMA

A circular economy builds up upon existing production and consumption patterns in areas. It seeks to re-direct flows of resources towards a more sustainable, circular use. Important flows of resources in AMA relate to three 'main ports', notably (1) the Amsterdam's docklands stretching from the port of Amsterdam towards the North-West and Ijmuiden, (2) the Schiphol area and (3) the green ports in the South-East (agricultural production in greenhouses and flower trading). The AMA is steering itself towards a circular economy. According to the City of Amsterdam (2013, in its document "Towards the Amsterdam Circular Economy"), a number of current and desirable future re-use cycles of resources could be defined and explored further. Regional design of this quarter focuses on four types of re-use cycles that are of particular importance:

<u>Re-use of waste</u>

In the Amsterdam Metropolitan Region, Cradle-2Cradle (C2C) has become an important approach over recent years. C2C seeks to minimise the quantity of non-recyclable waste. Innovative collection and sorting methods for separating value materials from the non-recyclable waste have been implemented. Waste is up-cycled and recycled by businesses. Waste includes construction and demolition wastes (e.g. from housing in Haarlemmermeer or regeneration of docklands in Amsterdam), bio-waste (e.g. related to the airport and green port) and solid waste (e.g. municipal solid waste and waste from airport catering). How can the re-use of waste be further enhanced? For what purposes can waste be used (e.g. waste heat, land fill, economic production)? A life-cycle analysis for various types of waste

flows is necessary to understand its potentials of maximizing environmental efficiency, economic value and social benefits.

Re-use of water

A new long-term vision for the water cycle in the Netherlands was recently formulated, giving emphasis to the users and the quality of their living environment rather than the systems of 'hardware' (City of Amsterdam, 2013). In AMA, abundant water resources are available. The driving forces behind the creation of closed water cycles are mainly constituted by the closure of other cycles, such as food, heat, and waste cycles. Water is often an important ingredient in re-use processes. It is required for purification and cooling, for instance. How can water purification and re-use in AMA be enhanced? What purposes do closed water circles have? What would they mean to the new paradigm of 'living with water' in the Netherlands, and the AMA region in particular?

Re-use of energy

The Netherlands undergoes an energy transition currently. The production and use of energy from diverse clean and renewable sources (such as wind, solar, biomass and possibly also tidal and algal energy) is encouraged politically and increases slowly. In AMA, decentralized energy production and consumption systems emerge (City of Amsterdam, 2013). Systems are attached to larger networks at various points and are supported by smart grids. They are seen to be efficient and of particular importance for meeting the increasing demand on electricity (caused by increasing numbers of electric vehicles, heat pumps and extra appliances). Consumers themselves become producers of electricity, using solar panels for instance. The participation of residents and businesses is essential for the realisation of decentralised electricity cycles. Simultaneously larger systems for the provision of renewable energy are under discussion, e.g. related to bio waste, wind farms and industrial heat. What kind of renewable energy schemes are appropriate for which kind of areas and purposes? How can schemes be combined with other cycles (e.g. waste, water)? What kind of spatial policies facilitate an energy transition in the Amsterdam Metropolitan Region?

Re-use of land

The city of Amsterdam has become more compact since the 1990s and is projected to further grow until 2040 at least. While space is becoming a scarce resource, there are multiple under-used and derelict areas in the peri-urban fringe of the city, due to industrial transformation and environmental restrictions for instance. To facilitate metropolitan development it is important to develop also this available land in second row in innovative and sustainable ways. Planning and design can contribute to the preservation of valuable landscapes and water resources. Re-development requires an intensification of uses, through double-use for instance. Re-development also requires a high standard of sustainability, e.g. in the design and construction of buildings and building ensembles and in energy and water supply. The development on the new Buiksloterham industrial estate in Amsterdam-Noord stands out as an example here. What are qualities of peri-urban areas? Which land-uses are promising and how can land-uses be combined? What are restrictions in land-use development and how can these be overcome?

AMA policy context

Formal planning actors in the Amsterdam metropolitan area are the national, provincial and municipal governments. Dutch planning law requires these authorities to formulate so-called 'structural visions': planning frameworks that identify guiding principles for the development

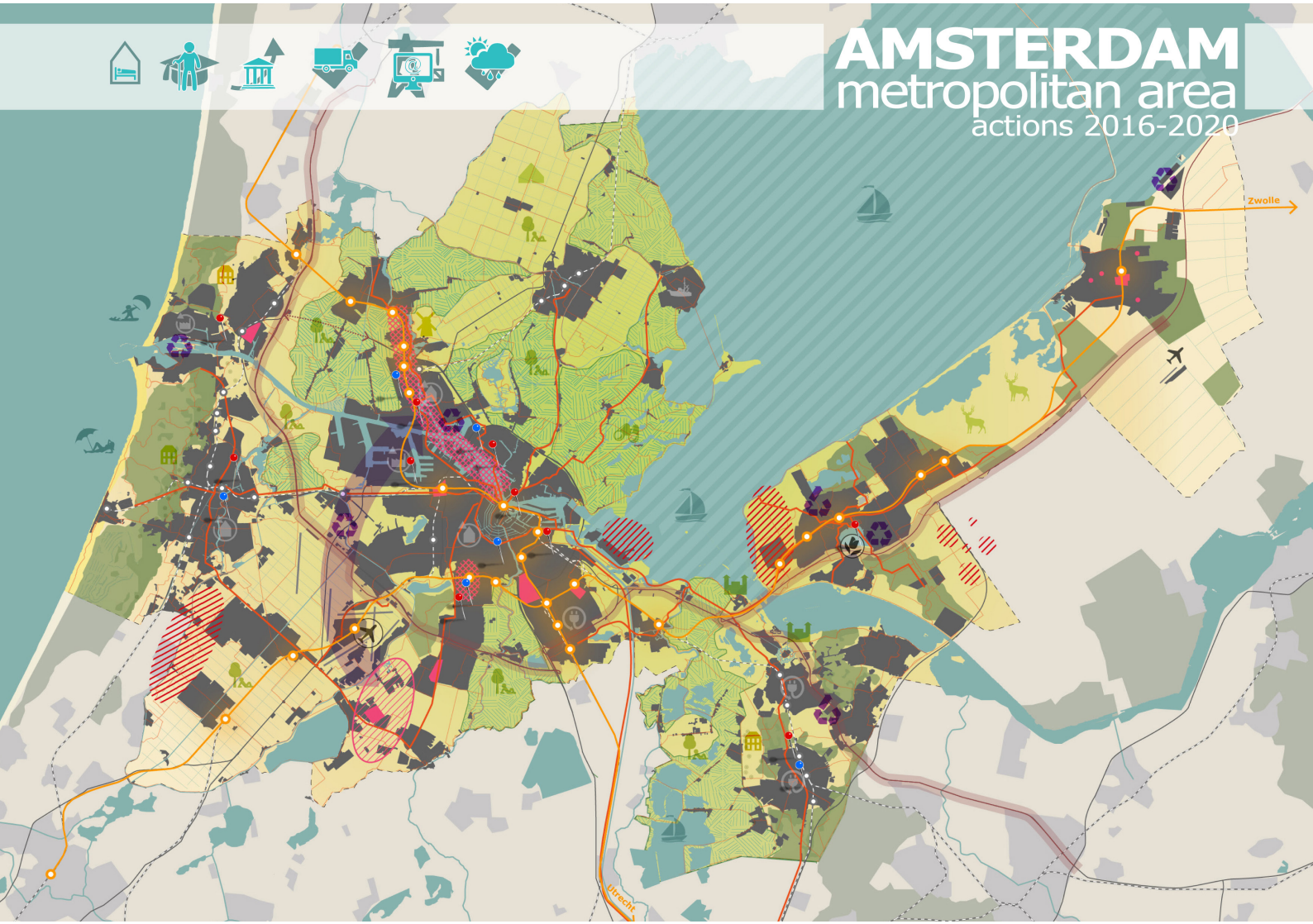


Figure 4: The Action map of the AMA; source: MRA 2016. Ruimtelijk-economische actie-agenda 2016-2020. Amsterdam: MRA.

of their territories. Most of the structural visions within AMA are under revision currently, due to new legislation (a simplification of environmental law specifically). Several AMA governments took up the concept 'circular economy' in revisions and other policies also. AMA is besides region also a voluntary co-operation among municipalities and provinces in the area. The partnership is set up to integrate and coordinate planning by levels and sectors of government and other planning actors also. The most important planning framework of the AMA partnership is its economic action agenda (MRA, 2016). The framework identifies core development zones and opportunities that relate to a circular economy in the region. Regional design proposals are positioned in respect to this policy context. They refine or challenge existing planning principles on the ground of rational argument.

Strategic spatial planning and governance

In an international context, the Netherlands is seen to be a champion of planning. Dutch national planning has demonstrated its comprehensiveness by winning large stretches of land from the sea, by preserving continuous open land in densely populated regions and by maintaining diversity and social cohesion in cities. However, Dutch planning has changed in recent decades. It transformed from a plan-led planning approach (where the state sets out imperative regulations for land-use development) to a development-led planning approach (where occurring development proposals, formulated by coalitions of public, private and civil parties, play a more important role). Responsibilities for planning were devolved from the national level to the regional and local level of government. Governance and participation became important issues. As in other European countries, planning turned out to be a collaborative effort that considers the interests of many; a search for political consent on the need to address problems in particular regions and for a strategic and coordinated use of resources that governmental and non-governmental actors have at hand. Regional design assists in the formulation of strategic spatial planning, through an exploration of particularities of the built environment.

Regional spatial development

Regional design is concerned about regional spatial development. What regions are is not clearly defined; there are multiple disciplinary interpretations, in the fields of land scape architecture, social, economic and political geography, for instance. In addition regions are embedded in spatial networks that reach across multiple scales and gradually change when social practices, lifestyles and mobility patterns for instance, change. The Randstad is Holland's region and is one of the major engines of the Dutch economy. In economic, social and cultural terms it is both, in competition and in cooperation with other regions in North West Europe (e.g. the Flemish Diamond, the Ruhrgebiet, and Greater London). The airport of Schiphol and the port of Rotterdam are its most important gates to the world. The polynuclear nature of the Randstad makes that there is not a clear hierarchy between places and that hierarchies change over time. What once was a dominant centre became periphery (i.e. Haarlem or Dordrecht) and what used to be the periphery is now a focus area (i.e. Schiphol or Zuidas). National planning has tried for half a century to model reality after the clear-cut concept of the Randstad: a ring of urbanization around an empty polder landscape. The concept was used to argue for prohibitive regulation of land-use in the area. However, when Dutch planning changed the original Randstad concept became obsolete. Since the 2000s there is a search for new interpretations that reflect a more relational perception of geographies and new, more strategic approaches to planning also. Regional design contributes to the formation of these ideas, through a exploration of particularities of the built environment.

2.1.3 Assignment and assessment

Assignment and deliverables

The core assignment of the Q3 quarter is to conduct a regional design. Design proposals are formulated by groups of 4-5 students. 4-5 groups of students are assisted by two tutors, who have a different expertise in design and planning. The regional design process has two products:

1. A **spatial vision** for the region and its vicinity. This vision builds up upon insights into current regional development trends and problems. Against this background it promotes a desirable future that serves as a normative frame and guiding principle for development strategies.
2. An associated **development strategy**. This strategy consists of a series of spatial interventions in the form of key projects and/or spatial policies, a time line that orders interventions chronologically and a description of actors and organisations that are involved in bringing spatial change about.

Spatial vision

A first product of the regional design process is a **spatial vision**. A spatial vision is a normative agenda that is set out in spatial/geographic terms. It describes a desirable spatial future. A vision is persuasive; it seeks to convince, enable and engage actors of action that is required to achieve the future. The scale of visions depends on the spatial scope and stretch of underlying development trends. A vision may cover a subregion of AMA or include the area as a part of a larger agglomeration (the southern/northern Randstad, the Randstad or the Amsterdam - Rotterdam – Antwerp harbour range, for instance). A vision may be a nuanced comprehensive planning framework that can be implemented in a relatively short time span (e.g. 20 years). A vision may also be extreme: a near utopia that positions desirable development in the far future. How, for example, would the region look and work like: If all water is contained in managed circles of use and re-use? If no waste at all is allowed for? If energy demand is reduced and met by renewable resources locally? If all wasted land is integrated to urban systems. In any case a vision incorporates notions on empirically observable development trends, a normative (political) agenda and core planning principles to achieve imagined futures. Through these components a vision informs a development strategy: concrete steps to be taken in the desired direction over time.

Development strategy

A second product of the regional design process is a development strategy. In outline a development strategy identifies concrete action to be taken in the light of a vision. This strategy is composed of three parts, notably (1) a definition of spatial interventions, (2) an ordering of interventions over a time line and (3) a critical inventory of actors and organisations that are involved in bringing spatial change about.

- **Spatial interventions** are strategic projects (direct investment in spatial change) and/or policies (generally applicable rules for spatial development, concerning e.g. densities, land-uses, sustainability standards). Based on the knowledge that students gain during thematic exercises they decide upon the most appropriate spatial interventions for achieving a vision.
- A **time line** orders spatial interventions over time. Ordering considers certainties and uncertainties during the implementation of a vision. It results in a resilient approach: one that is robust in respect to contextual changes that cannot be controlled. Scenario techniques are appropriate instruments to develop such an approach.

- An **inventory of actors and organisations** aims at a positioning of development strategies in an institutional context. Which actors agree and disagree on intended development? What are their resources and capacities to enhance or obstruct change? How does a design relate to their existing plans and policies?

Objectives

This regional design quarter has a variety of educational objectives. Objectives are based on the final attainment levels of the MSc Urbanism programme at the Delft University of Technology. The following exit qualifications have been designated to the quarter:

- Ability to convert a programme into a design.
- Insight into the origin of location patterns.
- Ability to relate the development of a concept to human relationship patterns and standards.
- Skills in urban design and planning research in project preparation.
- Ability in urban analysis, planning and design.
- Ability to evaluate designs against norms and regulations with respect to form, function, implementation, development costs and the environment.
- Knowledge of the organization, resources and tools of spatial planning.
- Oral, written and graphic presentation skills.
- Insight into decision-making procedures and processes.
- Ability to define and formulate an assignment, based on a well-funded analysis and ambition.

Assessment

Students work in groups of 4-5 on a regional design. Their products (a vision and development strategy) demonstrate:

- An understanding of the complexity of the existing condition and development trends in regional spatial development (analysis)
- An ability to deduct challenges and opportunities from conditions and trends (analysis),
- An understanding of spatial planning and the role of visions therein (theoretical knowledge)
- An ability to formulate a vision that responds to conditions and trends as well as political values and norms (analysis + design)
- An understanding of dimensions of development strategies (space, time, actors) (theoretical knowledge)
- An understanding of factors that shape a distinct development strategy (actor analysis, policy analysis, analysis of external factors that cannot be influenced)
- An ability to formulate a development strategy that considers earlier acquired knowledge (analysis + design)

The vision and development strategy are presented in three formats and an additional reflection:

1. Oral presentations: midterm and final presentation
2. A brief documentation of the most important content, making use of predefined template. Here the vision and development strategy are presented at least in maps, schemes and diagrams that are underpinned with a short text. A template will be supplied with more information on the requirements (to be found in blackboard). At the end of the quarter proposals from all groups can be collected in one book.
3. The report that students write for the course component of 'Research & Design Methodology for Urbanism' (this is a shared product with the R&D studio, assessed with different criteria)
4. An individual reflection (500 words). It is writ-

ten by individual students. Writing describes and evaluates the regional design process by the group in the studio. The reflection makes use of knowledge gained during the SDS lecture/workshop series. It also takes account of roles that individual students took in a group and the quality of individual contributions.

Assessment strategy for studio work
The assignment of the studio is based on group work. However, the assessment will also consider individual performance. The grade for studio work includes three parts:

- Vision: group grade, counts for 40%,
- Strategy: group grade, counts for 30%
- Individual reflection on the regional design process and individual performance in group work: individual grade, counts for 30%*

See the rubric (page 32-33) for assessment criteria

2.1.4 Spatial Development Strategies (SDS)

Responsible instructor: dr. Lei Qu: Assistant Professor in Spatial Planning and Strategy
email: L.Qu@tudelft.nl

Subject
The subject of this course element is about theories and methods of regional design, supported by strategic development strategies steering city regions towards sustainable future scenarios. The lectures and workshops of *Spatial Development Strategies* (SDS) are an integral part of the studio, providing theoretical/methodological knowledge on regional design for studio work. In the studio it is required to interpret and reflect upon knowledge gained in SDS lessons, with practical application of theoretical understanding. This will be assessed in the final judgment of the studio work. In addition students are asked to write a theoretical reflection individually on their regional design experience in the studio. The results of assessment will influence individual grades.

Course content
Cities and regions are in complex processes of transformation, facing opportunities and challenges brought by on-going trends of economic globalization, migration, climate change, energy transition, and so on. In the light of sustainable development, visions and strategies are needed for regional planning and design, to promote positive changes to city regions involving sectors of public, private and civil society, linking social, economic and environmental factors through scales. What are the more desirable future scenarios and how do they look like? What are the regional strategies that could direct transformation processes towards these scenarios, seeing the unintended outcome of deliberate actions by individuals and agencies (Salet, 2010)? How to formulate spatial policies and strategic projects in line with such regional strategies? In order to support studio work closely, the content of SDS sessions in this quarter is thematically more oriented to circular economy and reuse of resources.

The course includes 7 sessions, with lectures/ workshops on topics of:
1) spatial planning/ regional design: supporting an understanding of the role of design products (vision/development strategy) in planning

- The role of visions and strategies from perspectives of spatial planning (Vincent Nadin) and spatial concepts (Wil Zonneveld): The lectures function as introduction to spatial planning in regional scale. Regional design is seen as one of the approaches for regional planning, concerned with the political dimension of spatial planning and urban design, and the spatial and design dimensions of politics and governance. Visions and strategies are used as tools to steer territorial transformation towards more sustainable future scenarios.
- Policies and projects: Regional design approaches to planning in the Netherlands (Verena Balz, Francisco Colombo): The lecture further elaborate on methods and tools of regional design and how are they implemented in practice in the Netherlands. Various types of strategic interventions (policies and projects) will be introduced, as input for design products of the studio work.

2) analysing regional development: skills and methods students need to fulfil studio assignment

- Analysing flows in line with circular economy and urban metabolism (Alex Wandl and the REPAiR team): the lecture/workshop will provide knowledge on analytical tools and methods for regional analysis, focusing on map-

ping flows and cycles through scales. It will support research and analysis for problem definition in studio work.

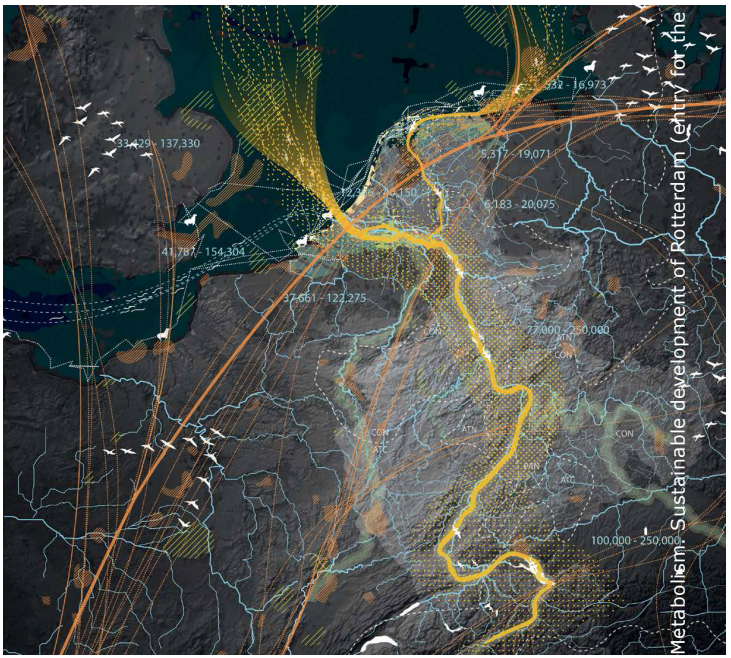
- Methods and techniques for regional design development and assessment (Remon Rooij) A short lecture providing students with basic techniques on the development and assessment of regional design, including a generic framework for regional design, scenario building, SWOT analysis, Multi-Criteria Analysis (MCA) and mixed scanning.
- Phasing strategies (Vincent Nadin): An interactive lecture + workshop session helping student to develop the timelines of strategic interventions. It will focus on the development process, actions and actors involved, which all together formulate the regional development strategy.
- Landscape-based regional design (Steffen Nijhuis) and Strategic landscape interventions (Nico Tillie): Landscape plays an increasingly important role in understanding and conceptualizing (public) spaces in city regions. The lectures will provide input on technical, topographical and visual relations between the city and the landscape. It investigates urban development and the design of urban regions within the framework of landscape architecture. In this approach landscape is seen as a structure that lies underneath, the site or substratum, and is the point of departure for urban design and planning. The method is about creating an integral design proposal on the structural level based on the underlying landscape as a framework for spatial development. For example green and blue structures could be used as a framework for strategic spatial development on the city and regional scales. By selecting strategic landscape intervention (project) within such framework, the design of a local landscape architectonic project would generate (positive) regional impacts. These impacts might include alleviating flooding risks, producing more renewable energy etc. as parts of the ecosystem services.

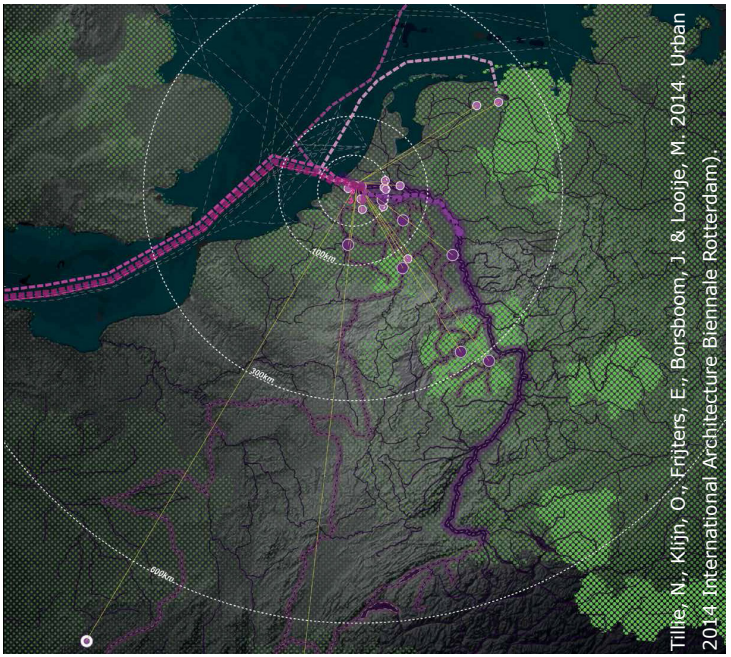
3) institutional context/ actors/ governance: supporting an understanding of relations among planning and design, encouraging a critical perspective

- Actor analysis (Marcin Dabrowski): An interactive lecture on governance, focusing on the nature of collaboration and tensions in the network of actors. It emphasizes on the importance of stakeholder analysis and provides analytical tools, which will help students to visualize relations among stakeholders in planning and governance processes.
- The great planning game (Roberto Rocco): The aim of this exercise is to get students acquainted with various roles of planners in practices of spatial planning and governance world widely, encouraging students to reflect on their roles and the attached values, as well as tools that might be used for regional planning.

2.1.5 Capita selecta: Dutch regional design and planning

To use design-led approaches in the realm of planning is a well-established practice in the Netherlands. The practice builds up upon a long tradition that can be traced back to the emergence of urban planning in the early 20th century, with Cornelis van Eesteren and Theodoor Karel van Lohuizen as its most important founding fathers. Expectations concerning the performance of design in planning decision-making are high. Design is thought to enhance the technical quality of plans, to clarify political agendas and to improve the efficiency and legitimacy of planning, for instance. However, roles of design in Dutch planning are diverse and changed over years, in accordance to changes in the Dutch planning system. Performances are multiple also and often difficult to trace. The lecture series *Capita selecta: Dutch regional design and planning elaborates* upon the different roles and performances of regional in planning. Professional regional designers and planners present their work and reflection upon their experience. Practitioners engage with students in a critical discussion on influences of design in the realm of planning and advise on strategies to enhance impact. As the SDS lectures and workshops, the Capita selecta series informs studio work. It informs the studio work of students through an increased understanding of interrelations among design and planning. In addition it provides students with practical information concerning the concepts and region they are engaged with. A detailed programme will be announced prior to events, on blackboard.





2.1.6 Didactics

The didactic model of this quarter is based on the concept of regional design. Regional design is an explorative search for solutions to complex problems in the built environment. It is shaped by iterations of research/analysis, design and reflection. Regions are 'fuzzy' spatial constructs; they usually lack clear spatial boundaries and are composed of multiple dependencies that stretch over a variety of scales. Students are encouraged to deal with this nature of regions through a continuous engagement with multiple scales. Regional design proposals derive meaning from a spatial and institutional context. A recognition of spatial, social and societal development trends, prevailing planning and political systems and existing institutions is essential in the making and positioning of designs. Recognition is enhanced by frequent critical discussion. Regional design is a collaborative effort. Students distribute roles and tasks throughout the design process. They share and discuss knowledge and ideas voluntarily.

The regional design process is started by an analysis of regional spatial structure and planning policy in the AMA region in week 1. Analysis is carried out by individual students who contribute to larger and shared knowledge base. In week 2 initial design ideas and concepts are developed on the ground of this knowledge base and by groups of students. In the weeks thereafter ideas and concepts are further developed into a vision, based on analysis and diagnosis of flows. After the mid-term presentation, from week 6 onward the making of a development strategy stands central. To achieve good end results a distribution of roles and tasks is specifically essential in this phase. Tutors encourage distribution actively.

C. van Eesteren. Polen, 1956. Collectie Het Nieuwe Instituut.

2.1.6 Assessment Criteria

		Excellent (9)	Sufficient (6)	Insufficient (4)
Group Vision 40% * (regional plan)	*Regional analysis*	Demonstrates **deep** insights in the complexity of existing regional spatial conditions and development trends; recognizes the **multi-scalarity** of regional spatial development. Insights result in a **sharp**, highly evidence-informed diagnosis of opportunities and challenges that regional spatial developments cause. Diagnosis, deducted from **multiple** conditions and trends, forms a stable base for visioning.	Demonstrates insights in existing regional spatial conditions and development trends. Insights result in an evidence-based diagnosis of opportunities and challenges that regional spatial developments cause. Diagnosis, deducted from few conditions and trends, forms a base for visioning.	Demonstrates little insights in the existing regional spatial conditions and development trends. Insights result in a weak diagnosis of opportunities and challenges that regional spatial developments causes. Insights provide a weak base for visioning.
	Thematic understanding	Demonstrates a **deep** understanding of the concept 'circular economy'. Understanding results in the recognition of **highly specified** potential for economic circularity in regional spatial development, in multiple cycles (e.g. concerning waste, energy, water, land). Insights result in the formulation of an **innovative** vision that integrates several developments and addresses an array of normative goals (e.g. economic competitiveness, environmental sustainability, social cohesion) in a **comprehensive** way.	Demonstrates an understanding of the concept 'circular economy'. Identifies potential for economic circularity in regional spatial development, in few cycles (e.g. concerning waste, energy, water, land). Insights result in the formulation of a vision that integrates few developments and addresses few normative goals.	Demonstrates little understanding of the concept 'circular economy'. Identifies little potential for economic circularity in regional spatial development; considers few cycles (e.g. concerning waste, energy, water, land). Insights result in a vision that considers development and few normative goals apart.
	Spatial quality: composition & synthesis	Demonstrates a **deep** understanding of the role of visions in planning decision making. The vision represents intended spatial qualities/structural spatial change in a **highly convincing/persuasive** way; the vision is supported by **clear** argument for core planning principles. The vision is a **critical** reflection on the existing policy context, through abundant references to existing policies.	Demonstrates an understanding of the role of visions in planning decision making. The vision represents intended spatial qualities/structural spatial change in a convincing way; it is supported by argument for planning principles. The vision is a reflection on the existing policy context, through references to existing policies.	Demonstrates little understanding of the role of visions in planning decision making. The vision represents intended spatial qualities/structural spatial change; there is little argument for planning principles. There are very few references to existing policies.
Group Strategy 30% ** (projects or policies)	*Spatial implication/organization of the policies and projects*	Demonstrates a **deep** understanding of strategic spatial planning and regional spatial planning approaches. Understanding results in the formulation of projects and policies that are **highly consistent** with the spatial vision. Spatial interventions are strategic, **innovative**, operational and effective policy measures. They are supported through **clear** argument and represented in a convincing/persuasive way.	Demonstrates an understanding of strategic spatial planning and regional spatial planning approaches. Understanding results in the formulation of projects and policies that are consistent with the spatial vision. Spatial interventions are strategic and effective policy measures. They are supported through argument and well represented.	Demonstrates little understanding of strategic spatial planning and regional spatial planning approaches. - Projects and policies show little consistency with the spatial vision. Spatial interventions are not plausible. They are supported through little argument and their representation is unconvincing.
	Relevance and feasibility of the crucial interventions	Demonstrates a **deep** understanding of the relevance and feasibility of a development strategy in a given policy context. Insights result in a **logical** ordering of spatial interventions over time. The phasing is highly robust in respect to uncertainties of long-term regional development. Spatial interventions are associated with a broad array of diverse actors with **clearly** defined responsibilities, resources and competences. The time line and inventory of actors are underpinned by abundant evidence and demonstrate a **critical** stance.	Demonstrates an understanding of the relevance and feasibility of a development strategy in a given policy context. - Insights result in an ordering of spatial interventions over time. The phasing is robust in respect to uncertainties of long-term regional development. Spatial interventions are associated with several actors and their responsibilities, resources and competences. The time line and inventory of actors are underpinned by evidence.	Demonstrates little understanding of the relevance and feasibility of a development strategy in a given policy context. - The ordering of spatial interventions over time is not logic and robust in respect to uncertainties of long-term regional development. Spatial interventions are associated with very few actors and their responsibilities, resources and competences. The time line and inventory of actors are underpinned by little evidence.

Individual reflection, individual and group performance 30%	*Knowledge from Spatial Development Strategies (SDS) (15%)*	Applies and **reflects** on the knowledge from the SDS lectures/workshops on methods of regional planning and design. Demonstrates own, original insights in lessons learned during the appliaction of knowledge.	Applies and **reflects** on the knowledge from the SDS lectures/workshops on methods of regional planning and design. Demonstrates insights in lessons learned from applying the knowledge.	No demonstration of lessons learned from the SDS lectures/workshops on methods of regional planning and design. Now demonstration of individual learning.
	Individual performance, team work and communication skills (15%)	**Individual performance**: Attends all group meetings/studio sessions on time, actively participates in discussion and decision-making. **Team work:** understands roles and responsibilities in collaborative design and supports team work actively, takes a fair share of the work load, is generous in the sharing of knowledge and ideas, is highly responsive to advise of tutors & peers. **Communication skills:** Is able to set out a line of thinking in an interactive setting in a convincing way; can listen to the argument of others, can respond thoughtfully. Uses communication media effectively, efficiently and in an innovative way.	**Individual performance**: Attends 85% of group meetings/studio sessions on time, actively participates in discussion and decision-making. **Team work:** understands roles and responsibilities in collaborative design and supports team work, takes a share of the work load, shares knowledge and ideas, is responsive to advise of tutors & peers. **Communication skills:** Is able to set out a line of thinking in an interactive setting; can listen to the argument of others, can respond. Uses communication media effectively and efficiently.	**Individual performance**: Attends 50% of group meetings/studio sessions on time, participates little in discussion and decision-making. **Team work:** shows little understanding of roles and responsibilities in collaborative design and little support for team work, takes little share of the work load, does not shares knowledge and ideas, is not responsive to advise of tutors & peers. **Communication skills:** Is unable to set out a line of thinking in an interactive setting. Uses communication media ineffectively and unefficiently.

• */**: The assessment is based on four products of students, notably (1) oral presentations, (2) a brief documentation of the regional design proposal, (3) a report on the design and (4) an individual reflection. While all products demonstrate an overall understanding of the course content and the ability to apply this understanding, products emphasize on different evaluation aspects. More information on emphasis will be provided during courses.

Student drawing from the course of Research & Design Methodology for Urbanism

2.2. RESEARCH & DESIGN METHODOLOGY FOR URBANISM

AR2U085

Instructors
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Course Load: 140 hours
Contact Hours: 32 hours
Independent Study: 108 hours

The component *Methodology for Urbanism* runs parallel to the studio. It is one of the core elements of the semester. It enables you to do academic research that will support and fundament your work in the studio. This is different to the studio because here you will concentrate on traditional forms of academic research, which you will connect to less traditional forms of research, like research by design. This connection between traditional and non-traditional (design-based) forms of research is one of the characteristics of education and research in the Department of Urbanism of the TU Delft. The methodology component will help you*:

1. EXPLAIN what a theoretical framework is
2. BUILD a theoretical framework that will sustain your research and design in Q3
3. IDENTIFY a community of authors and practitioners who write about the core ideas of your theoretical framework
4. WRITE a research plan, in which you will describe what are the main questions you will seek to answer in Q3 and the best methods to answer them
5. EXPLAIN the values connected to and the ethical issues involved in the activity of planning and designing for people

Being able to formulate your own problem statement, research questions and methodology is one of the goals of the Urbanism Master. The theoretical framework is the foundation on which the whole research and design are based. "There is nothing as practical as a good theory". This is because a theory is a "knowledge framework", around which you can build your own ideas, be inventive and innovative. Understanding what theories, ideas and practices exist will help you be even more innovative and groundbreaking (because you will not be reinventing the wheel).

*Those are our learning objectives summarized.

The guiding concepts underlying this course are:

1. Urbanism is trans-disciplinary and there are different logics of enquiry involved belonging to the human sciences, to the physical sciences and to design. These logics of enquiry conceive questions and methods differently. It is necessary to clarify these different logics of enquiry, their different questions and methods, and how they can work together, in order to be able to do research in Urbanism.
2. The model of knowledge-building used in this course is communicative/ inter-subjective. We assume that all knowledge is constructed inter-subjectively. Knowledge needs to be communicated in order to be validated, tested, and in order to integrate larger fields of knowledge production. Hence the emphasis on communication.
3. There are different ways to achieve knowledge and students and staff need to discuss and clarify which ones are valid, relevant, ethical and effective for Urbanism. For instance, there are different ways to do research in design-based practice: how to connect design research with other (more academic) ways of doing research?

2.2.1 Learning objectives detailed

By the end of this course,

- You will be familiar with debates on the relationship between academic research and design and planning practices. You will be able to make meaningful connections between your academic life and your practical education.
- You will be able to identify, name and discuss different logics of enquiry operating in spatial planning and design and understand the process of knowledge formation in each community of practice.
- You will also able to formulate and attach relevant research questions to different logics and objects of enquiry, and to conceive relevant methodologies that will allow you to answer those questions.

2.2.2 Pedagogical goals

The course aims to promote:

a. Acquisition of knowledge on basic concepts of philosophy of science
b. Development of critical and analytical skills
c. Development of argumentation skills
d. Clarity in presentation and communication of design and research
e. Excellence in writing and communication skills

Ultimately, the course operates as an introduction to several issues you will have to deal with in your academic and professional life, such as:

a. Issues of validity and relevance of knowledge
b. Underpinning of claims in spatial planning and design
c. Integration of research and practice
d. Integration of text and image
e. Formulation and communication of original knowledge

2.2.3 Originality of approach

Our approach is original because we incorporate the idea that a practical education in design and planning does not exclude academic research. On the contrary, one of the overarching goals of the methodology course is to raise the bar for academic research in your work. This distinguishes education at TU Delft from other schools.

Another original contribution of the course concerns the interconnection between textual analysis and design-based analysis, and the discussion on academic research in an area of creative practice. We do that by proposing intellectual and designing tasks. The focus is on knowledge formation and communication.

Mission

Our mission is to help build critical minds, able to assess and act on spatial development and design issues in an increasingly complex world. We wish to do so by helping you **integrate academic research and design and planning practice.**

This happens in several ways*:

1. by discussing the role of theories for design and planning practices,
2. by clarifying the ways in which theories are translated into practice in different domains (notably in the social sciences, in the physical sciences and in the design and planning practices),
3. by clarifying the role and the importance of design for planning practices and vice-versa and
4. by promoting active engagement of students in discussions, simulations and role playing games.

* These are our teaching styles and techniques.

Evidence-based Urbanism

One of our claims is that planners and urban designers sometimes have an irrational belief in the effectiveness of their own ideas, often without evidence or research that supports those ideas. This often leads to false claims about the effectiveness of plans and designs. By enabling you to reflect on the relationships between research, design and planning, we expect you will be more rigorous and responsible in your practice. We also expect you will reflect on your role in society and the ethical dimensions of the profession. We want you to do "evidence-based" urbanism that is also creative and innovative.

2.2.4 Assessment

You will need to write a research plan, composed by different elements that will be carefully explained to you. You will also be given a template to follow.

The research plan will become your final report for the whole Quarter 3, where you are going to explain the context in which your project happens, reveal what problems, issues or opportunities you are tackling, the theoretical framework you are using, the methods you are employing and the relevance of your work, among other items.

All work will be done in the same group as the studio and you will be graded as a group. For this reason, it is important that you solve problems concerning free riders as soon as possible: the workload must be fairly shared among members of the group.

Within the report, there are 3 different elements that will be assessed separately:

a) The report as a whole,
b) The reflection on ethics and values and
c) A theory paper

The theory paper is a standard academic paper that you will write following academic conventions. These conventions will be carefully explained to you.

Apart from the main product, you will also need to deliver one exercise each session. The exercises are individual and have a double function: they serve as an incentive for you to be present in all seven methodology sessions and they prepare you to deliver elements of the final report.

2.2.5 Deliverables

1. Research project = report (detailed below): 40% of the grade
2. Reflection on ethical issues and values addressed (part of the research project): 20% of the grade
3. Theory paper (part of the research project): 30% of the grade
4. Eight in-class exercises: 10% of the grade

The final grade of the Methodology component counts for 1/3 of the Q3 final grade!

Besides, students need to have at least 6 in the assessment of this component, in order to get the total 15 ECTs of the quarter. In other words, if you fail the Methodology component, you can't go forward!

Research Plan detailed:

1. The research plan leads to a final report for Q3 [group work]. The research plan and final report must contain the following elements:
    a) Title and explanatory subtitle
    b) 300-word abstract
    c) 5 relevant keywords
    d) An in depth introduction to the problem (issue/ challenge/ opportunity) you are tackling and to the context where this problem occurs
    e) A problem statement summarising the issue tackled
    f) Objectives of the research (what do you want to know?) and objectives of the design task (how do you think you can respond to the issue at hand?)
    g) A main research question and sub research questions derived from the problem statement and objectives. The research questions must be concise, well formulated and answerable.
    h) A theoretical framework (or an explanation of the field of ideas and theories

pertaining to the issue at hand) in the form of a scientific paper [30% of the final grade]
i) A set of scientific and design methods connected to the questions raised and that help you answer those questions
j) The values, ethical issues, the societal contribution of the work at hand and a reflection on democracy and the implementation of your project [20% of the final grade]
k) The scientific contribution of the work at hand
l) Recommendations for further research/ reflection on gaps in your own research
m) A time frame for the work at hand (planning)
n) The bibliography (references used and references needed to complete the work)

2. Eight in-class exercises that must be completed during the sessions in Q3 [individual] [10% of the final grade]

2.2.6 Activities:

Week 1: Introduction to philosophy of science and theoretical framework/ logics of enquiry
Week 2: Starting up your research: what is the problem/ what is the question? / Elements and logic of the research plan
Week 3: Traditional tools and skills for academic research/ connection to design-based practice
Week 4: How to write an academic paper: elements of the paper/ issues of validity and authority
Week 5: Communication and dissemination of your work/ Ethical issues
Week 6: The ethics of the built environment/ knowledge, practice and politics
Week 7: Theory of democracy/ how does democracy impact the planning and design activity?
Week 8: Hand in assignment
Week 9: No session
Week 10: Assessment

2.3. Obligatory literature and recommended reading

AR2U085

Source URL: http://library.nrhtx.com/images/pages/N168/Books%20and%20Literature.png

2.3.1 R&D Studio

Policy documents, obligatory reading
Students are required to position their design in the AMA policy context. The below listed selection of policy documents includes the most important current structural visions of national, provincial and local governments in the AMA region, intended revision of plans to respond to upcoming legal change (omgevingswet) and documents concerning the intended use of the concept 'circular economy' by planning actors. The reading of additional policy documents may gain importance during the design process, e.g. through an evolving focus on a sub-region of AMA or a thematic choice.

CIRCLE ECONOMY, .FABRIC, TNO & GEMEENTE AMSTERDAM 2016. Circular Amsterdam - A vision and action agenda for the city and metropolitan area. Amsterdam: Gemeente Amsterdam.

DIENST RUIMTELIJKE ORDENING AMSTERDAM (DRO) & STEDELIJKE WERKGROEP GRONDSTOFFEN 2012. Towards the Amsterdam Circular Economy (English translation of Amsterdamse Kringlopen in beeld). Amsterdam: Gemeente Amsterdam.

GEMEENTE AMSTERDAM, 2010. Structuurvisie Amsterdam 2040. Economisch Sterk en Duurzaam. Amsterdam: Dienst Ruimtelijke Ordening.

METROPOOLREGIO AMSTERDAM (MRA) 2016. Ruimtelijk-economische actie-agenda 2016-2020. Amsterdam: MRA. (for an English summary, see http://www.mraagenda.nl/mra-agenda-english/)

MINISTERIE VAN I&M 2012. Structuurvisie Infrastructuur en Ruimte: Nederland Concurrerend, Bereikbaar, Leefbaar en Veilig [National Policy Strategy for Infrastructure and Spatial Planning]. The Hague: Ministerie van Infrastructuur en Milieu (I&M).

MINISTERIE VAN I&M 2016. Nederland circulair in 2050. Den Haag: Ministerie van I&M.
PLANBUREAU VOOR DE LEEFOMGEVING (PBL) 2016. Verkenning omgevingsopgaven voor de nationale omgevingsvisie. Den Haag: PBL.

PROVINCIE NOORD-HOLLAND 2015. Structuurvisie Noord-Holland 2040. Kwaliteit door veelzijdigheid. Haarlem: Provincie Noord-Holland.

PROVINCIE NOORD-HOLLAND 2016. Startnotitie Omgevingsvisie NH 2050. Haarlem: Provincie Noord-Holland.

PROVINCIE NOORD-HOLLAND 2016. Startnotitie Ontwikkelingsperspectief Circulaire Economie Noord-Holland. Haarlem: Provincie Noord-Holland.

Websites
The below listed websites give access to important general information concerning the AMA region and applications the concept of 'circular economy'.

- Map AMA: https://drive.google.com/file//0B2CAnntPrD6AeC1IWURRNHRJRDA/view?usp=sharing
- Maps: https://maps.tudelft.nl
- Plans: http://www.ruimtelijkeplannen.nl/web-roo/roo/index
- EU regulation concerning waste: http://ec.europa.eu/environment/waste/framework/
- Spatial development/planning/circular economy in NL: www.pbl.nl

- Historical information NL: www.topotijdreis.nl
- Statisic data NL: www.cbs.nl
- Employment facts & figures NL: www.lisa.nl

2.3.2 Spatial development SDS

Obligatory literature

The below listed obligatory literature concerns key concepts that are introduced during SDS lectures. Key concepts are spatial planning, spatial concepts, regional design, landscape architecture, peri-urban areas and circular economy. Reading enhances a theoretical understanding of concepts and their application in workshops and the R&D studio. During lectures additional literature will be mentioned. Students are encouraged to read this.

ALBRECHTS, L., HEALEY, P. & KUNZMANN, K. R. 2003. Strategic spatial planning and regional governance in Europe. Journal of the American Planning Association, 69, 113-129.

CIRCULAR EUROPE NETWORK, 2015. General guidelines for integrated circular economy strategies at local and regional level, ACR report

Ghisellini, P., Cialani, C., & Ulgiati, S. (2016). A review on circular economy: The expected transition to a balanced interplay of environmental and economic systems. Journal of Cleaner Production, 114, 11–32.

GRAHAM, S. & HEALEY, P. 1999. Relational concepts of space and place: issues for planning theory and practice. European Planning Studies, 7, 623-646.

MASTOP, H. & FALUDI, A. 1997. Evaluation of strategic plans: the performance principle. Environment and Planning B: Planning and Design, 24, 815-832.

NADIN, V. & STEAD, D. 2008. European spatial planning systems, social models and learning. disP - The Planning Review, 44, 35-47.

PAASI, A. 2010. Commentary: Regions are social constructs, but who or what `constructs' them? Environment and Planning A, 42, 2296-2301.

NIJHUIS, S. & BOBBINK, I. 2012. Design-related research in landscape architecture. Journal of Design Research 10(4): 239 - 257

Sevaldson, B., & Ryan, A. J. (2014). Relating Systems Thinking and Design I Practical Advances in Systemic Design. FORMakademisk.org 2, 77(33), 1–5.

TILLIE, N., KLIJN, O. FRIJTERS, E., BORSBOOM, J., LOOIJE, M. SIJMONS, D. Urban Metabolism, sustainable development in Rotterdam, Rotterdam july 2014 Urban Metabolism: Sustainable Development of Rotterdam

VAN DIJK, T. 2011. Imagining future places: how designs co-constitute what is, and thus influence what will be. Planning Theory, 10, 124-143.

WANDL, A., NADIN, V., ZONNEVELD, W.A.M. & ROOIJ, R.M. 2014. Beyond urban-rural classifications: Characterising and mapping territories-in-between across Europe. Landscape and Urban Planning, 130, 50-63.

Websites:

- https://epthinktank.eu/2014/02/13/from-urban-rural-linkages-to-urban-rural-relationships-in-the-eu/

2.3.3 Capita selecta

Obligatory reading

The below listed writings describe and discuss the role of reginal design practices in planning. Most writings built up upon observations about Dutch regional design practices.

FÖRSTER, A., BALZ, V., THIERSTEIN, A. & ZONNEVELD, W. 2016. The conference 'Shaping Regional Futures: Mapping, Designing, Transforming!' A documentation. Munich/Delft (available on blackboard).

BALZ, V. E. & ZONNEVELD, W. A. M. 2015. Regional design in the context of fragmented territorial governance: South Wing Studio. European Planning Studies, 23, 871-891.

KEMPENAAR, A., WESTERINK, J., VAN LIEROP, M., BRINKHUIJSEN, M. & VAN DEN BRINK, A. 2016. "Design makes you understand"—Mapping the contributions of designing to regional planning and development. Landscape and Urban Planning, 149, 20-30.

ZONNEVELD, W. & Nadin, V. 2015. Tussen ontwerp en onderzoek: Planologie in Delft, Rooilijn, 48(1), pp.56-61 (english translation available on blackboard).

ZANDBELT D. & RIMMELZWAAN, M. 2010. Atlas of Big Plans (available through blackboard)

2.3.4 Research & Design Methodology for Urbanism

Obligatory literature
These texts that are essential reading for the Methodology component.

BIGGS, M., BUCHLER, D, 2008. "Eight Criteria for Practice-based Research in the Creative and Cultural Industries." Art, Design and Communication in Higher Education 7(1): 5-18.

BIGGS, M., BUCHLER, D. & ROCCO, R. 2009. Design Practice and Research: Interconnections and the criterion-based approach. In: MALINS, J., ed. European Academy of Design: Design Connexity, Aberdeen. EAD & Robert Gordon University, 375-380.

COTTRELL, S. 2005. Critical thinking skills: developing effective analysis and argument, New York, Palgrave Macmillan [selected chapters].

CROSS. N. 2007. From a Design Science to a Design Discipline: Understanding Designerly Ways of Knowing and Thinking. Design Research Now. R. Michel. Basel Boston Berlin, Birkhauser.

DORST, K. 2003. The Problem of the Design Problem. Expertise in Design – Design Thinking Research Symposium 6. N. Cross and E. Edmonds. Sydney, Australia, Creativity and Cognition Studios Press.

JONG T. de and M. G. M. Ferguson-Hessler, 1996. "Types and Qualities of Knowledge." Educational Psychologist 31(2): 105-113.

OKASHA, S. 2002. Philosophy of science: a very short introduction, Oxford; New York, Oxford Univ. Press. [selected chapters]

Complementary literature
These texts will help you go further in your studies and understanding of methodology, but are not mandatory.

BARRETT, E, 2007. 'Experiential learning in practice as research: context, method, knowledge' Journal of Visual Art Practice 6 (2): 115-124.

CANDY, L 2006. Practice Based Research: a guide. CCS Report: 2006-VI.0 November: University of Technology, Sydney.

CRESWELL, J. W. 1994. Research design: qualitative & quantitative approaches, Thousand Oaks, Cal- if., Sage Publications.

DAVIES, M. B. 2007. Doing a successful research project: using qualitative or quantitative methods, New York, Palgrave Macmillan

GÄNSHIRT, C. 2007. Tools for ideas: an introduction to architectural design. Basel; Boston, Birkhäuser.

GERO, J. S. 2010. Future Directions for Design Creativity Research. Design Creativity 2010. T. Taura and Y. Nagai. London, Springer Verlag.

HEALEY, P. 2003. The communicative turn in planning theory and its implications for spatial strategy formation. In: CAMPBELL, S. & FAIN

STEIN, S. (eds.) Readings in Planning Theory. Oxford: Blackwell.
JOHNSON, J. 2005. "Complexity science in collaborative design." CoDesign 1(4): 223-242.

KITCHEN, T. 2007. Skills for planning practice. Houndmills, Basingstoke, Hampshire; New York, Palgrave Macmillan.

KRIPPENDORF, K. 2007. Design Research, an Oxymoron? Design Research Now. R. Michel. Basel Boston Berlin, Birkhauser.

MCLUHAN, M. and Q. FIORE 1967. The medium is the massage. New York, Bantam Books.

MÜLLER, D. B., S. P. TJALLINGII, et al. 2005. "A Transdisciplinary Learning Approach to Foster Convergence of Design, Science and Deliberation in Urban and Regional Planning." Systems Research and Behavioural Science 22: 193-208.

RITTEL, H. W. J. and M. M. WEBBER, 1973. "Dilemmas in a general theory of planning" Policy Sciences 4: 155-169.

ROCCO, R. & ROOIJ, R. 2010. Educating the Critical Urban Planner and Designer: A didactical experience in an area of practice. In: INTED, 2010 Valencia. IATED.

SEHESTED, K. (2009). "Urban Planners as Network Managers and Metagovernors." Planning Theory and Practice 10(2): 245-263.

WARBURTON, N. 2000. Thinking from A to Z. 2nd ed. London; New York: Routledge.

Websites:

We strongly encourage students to join the website "Methodology for Urbanism" and explore its contents.

- https://methodologyforurbanism.wordpress.com

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Front page Image: Action map, In: Metropoolregio Amsterdam (MRA) 2016. Ruimtelijk-economische actie-agenda 2016-2020. Amsterdam: MRA.