

Creative urban technologies: exploring and navigating the smart and social city

- Course coordinator & lecturer: Michiel de Lange m.l.delange@uu.nl
- Lectures & Q&A: **ONLINE** Tuesdays 9.00-11.00, online on MS Teams (starting Nov. 16) in the #General channel
- Working Groups: **PHYSICAL** WG1 Thursdays 15:15–17:00, WG2 17:15 – 19:00 in [D25-301](#) (starting Nov. 18)
- MS Teams link to course environment: <https://bit.ly/307upVQ> self-enrollment code: 5zyb9r5
- Minor Creative Cities UU website: <https://students.uu.nl/en/hum/creative-cities>
- Course link: <https://cursusplanner.uu.nl/course/ME2V15008/2021/2>

1. COURSE OUTLINE

A. About the minor *Creative Cities*

The minor Creative Cities caters to students interested in emerging artistic practices, subcultures and new media and how these phenomena relate to creative dynamics in society. Investigating cities, urban citizenship and the multidimensional dynamics between them obviously suggests an interdisciplinary academic approach while simultaneously offering endless possibilities for exploring connections between theory and practice. All four courses literally open the door to the urban world immediately beyond the university classroom and provide students with theoretical concepts, practical tools, and creative space to explore it. For more information about the minor refer to <https://students.uu.nl/en/hum/creative-cities>.

B. About the course *Creative Urban Technologies*

Aim: The course aims to introduce students to the burgeoning cross-disciplinary field that studies the relationships between digital media technologies and today's cities, with a specific focus on the phenomenon of the "smart city". Students investigate and develop insight into how digital technologies shape city life. Under guidance, students will read literature thoroughly and critically, learn to differentiate between various types and sources, frame theoretical discussions in the field, position themselves, develop new ways of conceptualizing the treated issues, find sources, and undertake a research project. Students are trained in developing their ability to deploy academic skills in written and oral presentations, individually and as part of a group. Attention is given to students' capacity to reflect critically on current issues, practices, discourses, and academic research about smart cities, and the ability to develop an appropriate research method for their research.

Content: A wide variety of digital media technologies have come to shape the organization and experience of urban life. These urban technologies influence how we live, work, travel, meet, and spend our leisure time in the so-called "smart city", the city augmented with digital technologies. Examples include mobile communication, wireless internet access, GPS navigation, rfid access cards, media facades, embedded sensors and the Internet of Things, camera surveillance, location based services, and pervasive games. The "smart city" has become a popular corporate and policy term that refers to the use of digital technologies to optimize urban infrastructures and processes. Frequently, such technologies are designed and implemented by large corporations and institutions. Moreover, they tend to act in the background of everyday life and remain relatively invisible. This seems to place citizens in a rather passive role as mere consumers, or as subjects of control through data profiling and surveillance. The central question in this course is how urbanites use digital technologies in smart and creative ways to actively shape their own uses and experiences of the "smart city". We investigate the role of urban technologies in specific fields like public space, media art, play and games, citizen participation and co-creation, (big) data and privacy/surveillance, and identity construction.

2. ASSIGNMENTS

Below an overview of the required assignments for the course.

Note: All written assignments must be posted on Blackboard's discussion forum in a single individual thread as inline text (no attachments, except for the final paper). Please start an individual thread under your own name. Proceed by posting the other assignments as replies to yourself, changing only the week numbers. See the example on Blackboard.

Note2: All assignments must contain your name, student number, a title, and a list of references.

Assignment 1: 40% of final grade

The individual research log consists of all the preparatory work toward task 2. The research log contains the following elements (to be posted on Blackboard):

Part A: weekly propositions (individual)

50 - 100 words per week, 7 weeks in total

Each week you produce one relevant proposition to spur the debate during working group sessions. These propositions are based on the compulsory course literature. You could raise attention to a contestable argument of an author or offer a critique. Central is the critical comparison of texts. Do not produce abstracts but create your own small argument or point. Think of a catchy title for your assignment to frame your point. It helps to think of the following questions: What type of text is it? Who is/are the author(s) and what is the source? What different views on the same theme can you extract from the texts? What are the central issues of debate? Are the texts complementary or do they highlight different or even opposite views? Do the authors use the same concepts and definitions? How strong are their arguments? What position do you agree with and why? You are encouraged to support your propositions by referring to real world cases/examples.

Propositions are not individually graded but are part of the portfolio. What matters is how well you analyze the available literature, how critical your perspective is, whether you develop your own ideas and voice, and how you use the propositions to inform your research project.

Deadlines: Every Tuesday before 17:00 via MS teams > Class Notebook > Collaboration Space > Be prepared to share propositions during the working group meetings.

Part B: Research assignment "A Speculative Smart City design" (Team work)

Students in Project Groups (teams) will collaborate on the research assignment outlined below. Teams will present their work at the end of the course. They should also be prepared to share their work-in-progress during class.

Designing a hypothetical "smart city solution" to spark the debate

Student teams will make a conceptual prototype or 'probe', which allows them to question so-called 'smart urban technologies' by provoking debate. Teams will produce sketches, drawings, physical/digital prototypes, or any other kind of 'product'. This product should be firmly embedded in course literature and conceptual reflections, e.g. about controversies, playfulness, maker culture, etc..

Examples:

- Mark Shepard's Sentient City Survival Kit – <http://survival.sentientcity.net>.
- Next Nature – <http://www.nextnature.net/tag/design-for-debate/>.
- Dunne & Raby about 'critical design' - <http://www.youtube.com/watch?v=-bns4qcRRYY>
- Some of the MAB student awards <https://studentawards.mediaarchitecture.org/mab/projects/>
- The "adversarial design" interventions discussed in Morozov's chapter 9:

<https://ebookcentral.proquest.com/lib/uunl/detail.action?docID=1113972>.

Assignment 2: research report - 60 % of final grade (individual)

Students write an individual report about their team-based research project. Reports should contain the following elements (not necessarily in this order):

- 1) Phenomenon: the thematic topic you study and the concrete case that you use. Often introduced with an anecdote or original observation.
- 2) Question and hypothesis/argument: a well-formulated question about your phenomenon, plus the expected outcomes and/or point you want to make. Research questions are often broken down into sub-questions.
- 3) Theory: the perspective and concepts you use to research this phenomenon, and operationalization of key notions.
- 4) Method: the approach you use to find answers to your question(s), a discussion of the data gathered and the pros/cons of this approach.
- 5) Positioning: the reason(s) for the academic relevance and perhaps also societal relevance: why are you researching this?
- 6) Analysis: presentation and discussion of the results.
- 7) Conclusion and reflection: what have you found, what are the limitations, what are the possibilities for future research?
- 8) Visual documentation of the prototype.

The length of the report should be 2500 - 3000 words. During working groups, we shall devote ample time to this. The **deadline** for handing in your final report is **28 January 2022** 17:00 CET.

3. COMPLETING THE COURSE

The course is successfully completed when these conditions are met:

- Students have handed in all required weekly propositions on time. Students who miss more than one cannot complete the course.
- Students have participated in the team assignment with a minimum grade of 5.5.
- Students have handed in their final report on time with a minimum grade of 5.5. Students have the right to repair a 4 or higher. Only final papers can be repaired.
- Students have attended all class meetings. If students miss one class they need to notify the instructor in advance to make arrangements. Students absent from more than one class without good reason cannot complete the course. Get in touch with the study advisor if you have to miss more than one class:

<https://students.uu.nl/gw/contact>.

Fraud and Plagiarism

Please read the rules concerning fraud and plagiarism: <http://students.uu.nl/en/practical-information/academic-policies-and-procedures/fraud-and-plagiarism>. These rules apply not only to the final paper but to every assignment.

4. CONTACT

Please use MS Teams to ask questions about the course. Not only will you likely get quicker answers from other students and from the instructor, your question may also help fellow students. E-mail the course coordinator if you feel that you need to discuss a more personal matter. Notify the course instructor via e-mail or teams of any

class absence.

5. COURSE PLANNER

5.1 Calendar

Week 1	16/18 Nov
Week 2	23/25 Nov
Week 3	30 Nov/2 Dec.
Week 4	7/9 Dec
Week 5	14/16 Dec
<i>break</i>	20 Dec. - 9 Jan
Week 6	11/13 Jan
Week 7	18/20 Jan
	Deadline final paper: 28 January 2022 17:00 CET

5.2 Weekly Literature

Note: many URLs only work from within the university network, or after logging in with your account.

Week 1. From Creative Cities to Smart Cities

As a general introduction to this course, we will get to know key notions like the creative city and smart city. What do they entail? And what critical perspectives can we develop about these developments?

Mattern, Shannon. 2021. *A city is not a computer: other urban intelligences*. 1st. ed, *Places books*.

Princeton: Princeton University Press. Ch2 "A City Is Not a Computer" (51-72) [pending library access, the text is available on MS Teams, under tab *Files > Class Materials*]

Powell, Alison B. 2021. *Undoing optimization: civic action in smart cities*. New Haven: Yale University Press.

"Introduction: Technology, Citizenship, and Frameworks of the Smart City" (1-24) + Ch. 1 "Network Access and the Smart City of Connectivity" (25-53)

<https://utrechtuniversity.on.worldcat.org/v2/oclc/1245464595>

Week 2. From smart cities to smart citizens?

In week 2 we follow up on the first week by looking at how digital technologies in today's smart and social cities are forwarded to address various urban problems.

McFarlane, Colin, and Ola Söderström. 2017. "On alternative smart cities." City 1-17. <https://bit.ly/2CgRgSs>

Gabrys, Jennifer. 2014. "Programming Environments: Environmentality and Citizen Sensing in the Smart City". *Environment and Planning D: Society and Space*. 32(1): 30-48. <https://doi.org/10.1068/d16812>.

Powell, Alison B. 2021. *Undoing optimization: civic action in smart cities*. New Haven: Yale University Press.
Ch. 4 "Rethinking Civic Voice in Post-Neoliberal Cities" (108-134)
<https://utrechtuniversity.on.worldcat.org/v2/oclc/1245464595>

Week 3. Creative citizenship

This week we further focus on the question how new media technologies may be used to leverage the creative potential of urbanites as active shapers of their own living conditions.

Cardullo, Paolo and Kitchin, Rob. 2019. "Being a 'citizen' in the smart city: up and down the scaffold of smart citizen participation in Dublin, Ireland." *GeoJournal* 84(1): 1-13.
<https://link.springer.com/article/10.1007%2Fs10708-018-9845-8>

Radywyl, Natalia, and Biggs, Che. 2013. "Reclaiming the Commons for Urban Transformation." *Journal of Cleaner Production* 50: 159–170. <https://doi.org/10.1016/j.jclepro.2012.12.020>

Tironi, Martín. 2018. Speculative prototyping, frictions and counter-participation: A civic intervention with homeless individuals, *Design Studies*, 59: 117-138. <https://doi.org/10.1016/j.destud.2018.05.003>

Week 4. Controversies and publics

This week we explore controversies for their potential role in widening civic participation towards shaping smarter cities by enabling the creation of publics around shared matters of concern.

Baibarac-Duignan, Corelia, and Michiel de Lange. 2021. "Controversing the datafied smart city: Conceptualising a 'making-controversial' approach to civic engagement." *Big Data & Society* 8 (2).
<https://doi.org/10.1177/20539517211025557>

de la Bellacasa, Maria Puig. 2011. "Matters of care in technoscience: Assembling neglected things." *Social Studies of Science* 41 (1):85-106. <https://doi.org/10.1177/0306312710380301>

Nold, Christian. 2018. Turning Controversies into Questions of Design: Prototyping Alternative Metrics for Heathrow Airport. In *Inventing the Social*, eds. Noortje Marres, Michael Guggenheim, Alex Wilkie. Manchester: Mattering Press. <https://bit.ly/3o9zXrg>

Teli, Maurizio, Silvia Bordin, María Menéndez Blanco, Giusi Orabona, and Antonella De Angeli. 2015. "Public design of digital commons in urban places: A case study." *International Journal of Human-Computer Studies* 81:17-30. <https://doi.org/10.1016/j.ijhcs.2015.02.003>

Week 5. Playful City

How can play and games be used to reprogram the city in creative ways? In this week we explore the intersections between urbanity and play and games by focusing on pervasive urban games, gamification, and gameful design.

Alfrink, Kars. 2015. "The Gameful City." In *The gameful world: approaches, issues, applications*, edited by Steffen P. Walz and Sebastian Deterding, 527-560. Cambridge, MA: The MIT Press.

<https://ebookcentral.proquest.com/lib/uunl/reader.action?docID=3339935&ppg=538>

de Lange, Michiel. 2015. "The Playful City: Using Play and Games to Foster Citizen Participation." In *Social Technologies and Collective Intelligence*, edited by Aelita Skaržauskienė, 426-434. Vilnius: Mykolas Romeris University. <http://bit.ly/1hWbkeb>

Sicart, Miguel. 2016. "Play and the City." *Navigationen special issue "Playin' the City: Artistic and Scientific Approaches to Playful Urban Arts"* no. 16 (1): 25-40. <https://doi.org/10.25969/mediarep/1580>

Recommended videos

McGonigal, Jane. 2010. "Gaming can make a better world". *TED Talk*.

http://www.ted.com/talks/jane_mcgonigal_gaming_can_make_a_better_world.html (20 min.).

Squire, Kurt. 2013. "Civic Engagement Through Digital Games." <http://www.edutopia.org/kurt-squire-games-civic-engagement-video> (9 mins.)

Sicart, Miguel. 2017. "Unplayable Cities". <https://vimeo.com/244818275> (22 mins).

Recommended webpages:

<http://civicmediaproject.org/works/civic-media-project/playandcreativity>

<http://urban360.me/2012/08/24/if-urban-life-is-a-game-smart-cities-are-the-playgrounds>

Week 6. Data City

In week 5 we focus on the role of digital media technologies in (re)creating urban subjectivities, by looking in particular at the role of (big) data and datafication processes.

de Lange, Michiel. 2019. "The Right to the Datafied City: Interfacing the Urban Data Commons". In *The Right to the Smart City*, eds. Paolo Cardullo, Cesare Di Felicianantonio and Rob Kitchin. Bingley: Emerald Publishing.

<https://www.semanticscholar.org/paper/The-Right-to-the-Datafied-City%3A-Interfacing-the-Lange/ce8ab6e86c53692098001d8f53b2ec37f3148f53>

Deitz, Shiloh, Amy Lobben, and Arielle Alferez. 2021. "Squeaky wheels: Missing data, disability, and power in the smart city." *Big Data & Society* 8 (2): <https://doi.org/10.1177/20539517211047735>

Pybus, Jennifer, Cote, Mark and Blanke, Tobias. 2015. "Hacking the social life of Big Data". *Big Data and Society* (1–10). <https://journals.sagepub.com/doi/10.1177/2053951715616649>

Week 7. Maker City

In this week we pay attention to new modes of making (e.g. makerspaces, hackerspaces, hackathons, hackable cities, urban labs) as civic-driven and participatory creative urban practices.

Anderson, Chris. 2012. *Makers: The New Industrial Revolution*. 1st ed. New York: Crown Business. Ch.2 "The New Industrial Revolution" & Ch. 3 "The History of the Future" pp. 17-51.

<https://www.dropbox.com/s/kaepzyrk4vk33rb/A-Makers.pdf?dl=0>

Niaros, Vasilis, Vasilis Kostakis, and Wolfgang Drechsler. 2017. "Making (in) the smart city: The emergence of makerspaces." *Telematics and Informatics*.

<http://www.sciencedirect.com/science/article/pii/S0736585316306980>

Kelty, Christopher M. 2008. *Two Bits: The Cultural Significance of Software*. Durham (NC): Duke University Press.

<https://www.twobits.net/pub/Kelty-TwoBits.pdf> "Introduction" and Part 1.1., "Geeks and Recursive Publics".

The Guardian has been looking at maker culture at large:

<https://www.theguardian.com/science/political-science/2016/sep/07/can-the-open-hardware-revolution-help-to-democratise-technology>

<https://www.theguardian.com/science/political-science/2015/apr/04/tooling-up-civic-visions-fablabs-and-grassroots-activism>

<https://www.theguardian.com/science/political-science/2014/jan/22/remembering-the-lucas-plan-what-can-it-tell-us-about-democratising-technology-today>