

MIT Joint Group in City Design and Development
Department of Urban Studies and Planning and Department of Architecture

Spring 2013
Urban Design Ideals and Action
11.337j/4.247j 2-0-7 units and
11.S955 6 units (IAP course)

Special Spring 2013 Topic: *Parametric Urbanism: Singapore Workshop*

Instructor: Brent D. Ryan bdr@mit.edu
Seminar meetings: Mondays, 1 to 3 PM, Room 10-401
Workshop sessions: alternate Wednesdays, 6 to 8 PM, Room TBA

Course introduction and purpose

The Spring 2013 11.337j/4.247j examines urban design through the lens of the *parameter*. Broadly defined as a variable within a system whose change affects other aspects of the system, parameters, or “parametricism”, is an increasingly popular means of generating architectural form. City form, too, is composed of parameters at many scales, ranging from individual building features to elements like infrastructure and settlement patterns. One can imagine urban design as less the generation of city districts de novo and more the modification of existing urban elements in a purposeful manner. Parametricism, then, has much to contribute to urban design, and urban design therefore has the potential to redefine parametricism.

This year’s 11.337j/4.247j is overtly theoretical as well as practical. Understanding urban design and the city as a combination of interrelated elements has long been a thread of the architectural literature, animated by the tacit temptation of generating a unifying theory of the ideal city, and therefore of urban design. Yet this parametric road has also been a difficult one; for every theory that seeks to codify design, there is a designer who resists codification. The debate over parametricism is perhaps an existential one, yet the very fact of this tension indicates that this aspect of urban design may also be essential.

The seminar’s understanding of parametric urbanism will be developed through a series of readings published beginning in the 1960s through the present day. This literature, which reached a peak in the 1970s but which seems again to be gaining momentum, oscillates between manifesto and quasi-scientific study. Almost all of the authors are architects, which is perhaps ironic given that the planning field is the more overtly parametric, given the profession’s century-long use of zoning. Yet planning has rarely attempted to generate theories for shaping the city that are overtly linked to formal principles; rational and social considerations have usually held the day.

The 2013 seminar is paired with a workshop that is organized and sponsored in partnership with Professor Andres Sevtsuk of the Singapore University of Technology and Design. Workshop participants visited Singapore in January 2013 and generated short proposals based on parametric variables for two Singapore neighborhoods, Bugis and Punggol. Singapore is a particularly efficient and design-oriented nation, and it is therefore an appropriate site for parametric investigations. Singapore will be revisited as a site for parametric design over the course of the semester.

Course structure

Participants are responsible for attending both seminar and workshop sessions and participating in class discussions.

There are two primary course requirements:

- a midterm paper (3,000 to 4,000 words or approximately 10 1.5 spaced pages, not including illustrations and references) on one or both parametric theories previously presented, due April 1. Paper details will be circulated on February 25.
- a final presentation examining the application of parametric theory in the city-state of Singapore in the form of an urban design project. Project development will occur in workshop sessions over the course of the semester. Presentations will occur on May 13 and 15.

The seminar structure will be based on student presentations of course readings. In seminar meetings through April 1, two students will present two readings each. Readings can be from the course bibliography or may be suggested by the student with instructor approval. Because each student will be required to read two books or the equivalent, students will not be required to read material other than the material that they are presenting.

Although almost all of the course readings may be on reserve, in some cases students will be responsible for obtaining readings from the MIT or Harvard library. In the case of extremely lengthy works (e.g. Schumacher), students should read a selection of the work as long as that selection is between 100 and 200 pages. Additional details on reading presentations are provided later in this syllabus.

Course grades will be based on presentation of course readings (25%); midterm paper based on readings (25%); urban design project presentation (40%) and general class participation and engagement (10%).

Course Schedule and Calendar

Seminar sessions will meet on Mondays, 1 to 3 PM in 10-401 and workshop sessions will meet on alternate Wednesdays, 6 to 8 PM in TBA.

Week	Month Date	Time	Session	Details
1	Feb 5 Tuesday			First Day of Classes (UDI does not meet this week)
2	11 Mon	1 – 3 PM	seminar 1	Introduction and Singapore café crit debriefing
3	19 Tues			Monday classes meet Tues b/c of holiday but No class this week: BDR out of town
4	25 Mon	1 – 3 PM	seminar 2	Presentations: Readings One and Two and discussion Hand out urban design ideals paper
5	Mar 4 Mon	1 – 3 PM	seminar	Presentations: Readings Three and Four and discussion
6	6 Wed 11 Mon	6 – 8 PM 1 – 3 PM	workshop1 seminar 3	Meetings: Singapore projects Presentations: Readings Five and Six and discussion
7	18 Mon 20 Wed	1 – 3 PM 6 – 8 PM	seminar 4 workshop2	Presentations: Readings Seven and Eight and discussion Meetings: Singapore projects
8	25-29			No Classes this week- Spring Break
9	Apr 1 Mon 3 Wed	1 – 3 PM 6 – 8 PM	seminar 5 workshop3	Presentations: Readings Nine and Ten and discussion Urban design ideals paper due Meetings: Singapore projects
10	8 Mon	1 – 3 PM	seminar 6	Presentations: Reading Eleven and discussion
11	15 Mon			No class today- Patriots' Day
12	22 Mon 24 Wed	1 – 3 PM 6 – 8 PM	seminar workshop4	Readings: Parametricism and Singapore Meetings: Singapore projects
13	29 Mon	1 – 3 PM	seminar	
14	May 6 Mon 8 Wed	1 – 3 PM	Seminar workshop5	Readings: Parametricism and planning Meetings: Singapore projects
15	13 Mon 15 Wed	1 – 3 PM 6 – 8 PM	seminar workshop6	Presentations Part One: Singapore projects Presentations Part Two: Singapore projects

Course Bibliography

- Alexander, Christopher. *A Pattern Language*. Oxford University Press, 1977 ISBN 0-19-501919-9
- Alexander, C. *Notes on the Synthesis of Form*. Harvard University Press, 1964. ISBN 0674627512.
- Alexander, C. *A New Theory of Urban Design*. Oxford University Press, 1987. 978-0-19-503753-1.
- Aylward, M.G. "Toward a Theory for Describing and Designing Adaptability in the Built Environment." *Transactions of the Bartlett Society*, Vol. 7, pp. 129-147.
- Habraken, John. *The Structure of the Ordinary: Form and Control in the Built Environment*. MIT Press, 2000. ISBN 978-0-262-58195-0
- Habraken, John. *The Grunsfeld Variations: a report on the thematic development of an urban tissue*. MIT Department of Architecture, 1981. No ISBN.
- Hillier, Bill. *Space is the Machine*. Pp. 149-272. Cambridge University Press, 1996. ISBN 0-521-56039.
- Hillier, Bill and Juliette Hanson. *The Social Logic of Space*. Cambridge University Press, 1984.
- Koolhaas, Rem. *Delirious New York*. Oxford University Press, 1977. ISBN 1-885254-00-8.
- Lehnerer, Alex. *Grand Urban Rules*. 010 Publishers, 2009. ISBN 978-90-6450-666-6.
- Lynch, Kevin. *Good City Form*. Pp. 111-235. MIT Press, 1981.
- Martin, Leslie. "The Grid as Generator." In *Urban Space and Structures*, edited by Leslie Martin and Lionel March. Cambridge University Press, 1972. ISBN 0-521-08414-8. AND
- March, Lionel, and Steadman, Philip. *The Geometry of Environment: An introduction to spatial organization in design*. MIT Press, 1974. ISBN 0-262-63055-9.
- Moudon, Anne Vernez. *Built for Change: Neighborhood Architecture in San Francisco*. MIT Press, 1986. ISBN 0-262-63120-2.
- Pont, Meta Berghauer, and Per Haupt. *Spacematrix: Space, Density, and Urban Form*. NAI Publishers, 2010. ISBN 978-90-5662-742-3.
- Schumacher, Patrik. *The Autopoiesis of Architecture: A new agenda for architecture, Volume 2*. Pp. 617-709 and appendices (optional). Wiley, 2012. ISBN 978-0-470-66616-6.
- Steadman, Philip. *Architectural Morphology: An introduction to the geometry of building plans*. Pion, 1983. ISBN unknown.
- Weeks, J. "Planning for Growth and Change." *The Architect's Journal*, July 1960. AND
- Weeks, J. "Indeterminate Architecture." *Transactions of the Bartlett Society*, Vol.2., 1963, pp. 85-106.
- Panerai, Philippe, et. al. *Urban Forms: The death and life of the urban block*. (originally *Formes Urbaines de l'Ilot a la barre*, 1997). Architectural Press, 2004. ISBN 0750656077.
- Maas, Winy, and MVRDV. *Spacefighter: The evolutionary city (game:)*. Actar, 2007. ISBN 8496540731.
- Sola Morales, Manuel . *Ten Lessons on Barcelona/Diez Lecciones Sobre Barcelona*. ISBN 0: 849684224X.

On The Presentation of Readings (Guidelines for presenting course readings)

During weeks four through ten, the seminar will be organized around presentations of course literature. Presentations should follow the following formats.

Your presentation may be up to 25 minutes long, but no longer. Your presentation should contain between 40 and 50 slides, very approximately. More slides will take too long to present.

For your presentation, you should read and assess two of the works in the above bibliography. Unless otherwise noted, read a work in its entirety. Do not underestimate the amount of time it will take to read a book: two or three full days is not unusual. However, you will have between two and six weeks to read. You are free to read two books by the same author if you wish. In the case of an article, two articles is the equivalent of one book. In other words, you could present two articles and one book.

You are free to suggest an additional book for reading if you wish. Please do so by the below Feb.14 deadline.

All of the books in the above bibliography have been placed on reserve as of February 11. Reserve status places restrictions on use (the book may not be removed from the library during the day), but it also obviates the possibility of books being recalled, a distinct advantage. Reserve status was deemed the most appropriate way of guaranteeing a book's availability throughout the semester.

Your assessment should center not around a summary of the book's argument, but around its relevance to this course's topic of parametric urbanism. Please address the following issues in your presentation:

- Provide a general assessment of the author's understanding of design. Does the author express a broad philosophy of design in the work? If so, what is it?
- Explain the author's translation of design into measurable, distinct parametric variables. What are some of these key parameters, either explicit or implicit?
- Do the author's collected parameters generate a coherent theory of city form? What kind of city, in your interpretation, is the author aiming to generate through their parameters?
- Parameters are often closely tied to methods of generating them and of generating form according to them. Discuss briefly the author's methods of generating both the parameters and the resultant urban form.
- Tell us what you think of these parameters. Is the author's method and concept a good way of understanding and of designing a city? What, briefly, are some shortfalls or improvements that you can imagine?

Presentations should include appropriate graphics from the books and should not contain an overabundance of text. You will be asked to submit your presentations to Stellar as a PDF, so please be prepared to do so. Your midterm short paper will provide you an additional opportunity to discuss these points in writing.

Please select your top four books for reading and submit to the instructor via email by Thursday, February 14 at 5 PM. Books will be allotted at that time according to student preferences.