Berlin Seminar: Contemporary Practices and Sustainable Futures
Spring 2011
Instructors: Jan Otakar Fischer and Peter Wiederspahn

COURSE DESCRIPTION

Berlin, like much of Germany, is a leading center of innovative design and sustainable architecture. A strong societal and political will to promote high-performing, energy-efficient architecture and urban planning has produced a body of contemporary precedents that has become a benchmark for European and global sustainable design. Significantly, this architectural and urban design culture has proven to be a positive symbol for a newly reunified Germany as a progressive, responsible, and prosperous state.

The Berlin Seminar will focus on the more important architectural, urban, and infrastructural developments that have emerged in Germany over the past twenty years, but it will also focus on the political mandate for sustainable thinking and its impact on contemporary design. Accordingly, students will study sustainable design at multiple scales: the micro-scale of architectural details and integrated technical systems; the architectural scale of efficient and passive energy buildings; the urban scale of architectural intervention in the metropolitan context; the regional scale of open space and transportation networks; and the macro-scale of political action and legislation regarding sustainable design.

The course will investigate a series of interrelated themes of fundamental importance to the health of the built environment. Global warming and environmental degradation will be a central concern. The accelerated consumption of oil and energy, the unregulated creation and dispersion of pollution, the alarming increase of CO2 emissions, and the consequent alterations to the earth's climatic equilibrium are no longer phenomena that can be ignored by architects and urban planners. A rich variety of trendsetting German projects of sustainable design can be experienced firsthand in Berlin and its surroundings. These building projects offer exciting solutions for the use of renewable energy, efficient lighting, natural materials, converted infrastructure, and ecological/political coordination, and we will visit several during regularly scheduled field trips. The resulting experience and insights should foster new ideas for livable, socially responsible design.

COURSE REQUIREMENTS

Participation/Attendance 30%. Students must complete the assigned readings, attend all lectures and site visits, and participate in class discussions.

Two Research Projects 40%. Students will create two research projects during the semester reflecting topics covered in the course: an Urban Analysis (for example, infrastructural, political, or historical factors relating to green issues at the macro scale in Berlin) and an Architectural Analysis (for example, technological, social, or aesthetic factors relevant to specific existing or planned structures in Germany). Students working in small groups will choose a building, urban situation, and/or topic to research and investigate, and present their findings in class.

Final exam 30%. A written exam based on the readings, lectures, and site visits.

RECOMMENDED READING

Session 1 (in class- 3 hours): Introduction: Millennium Challenges

*Session 2 (field trip- 2 hours): Contemporary German Settings
Site-visit:
Berlin: Norman Foster, Reichstag conversion to modern Bundestag (1999)
Readings:

Session 3 (in class-3 hours): Peak Oil and Climate Change
Readings:

*Special: Guest Presentation: Representative from Siemens Power Generation to discuss the future of renewable energy production in Germany and beyond (perhaps in conjunction with visit to Peter Behrens’s AEG Turbine Hall).

Session 4 (field trip- 2 hours): Contemporary German Settings
Site-visit:
Berlin: Norman Foster, Free University Philological Library (2005)
Reading:

*Session 5 (field trip- 3 hours): Contemporary German Settings
Site-visit:
Dessau: Sauerbruch & Hutton, Federal Environmental Agency (2005); Walter Gropius, Bauhaus (1926).
Readings:
- Matthias Sauerbruch, “Sustainability, or the Redefinition of the Pleasure Principle,” Harvard Design Magazine (Nr. 30), Spring/Summer 2009.

Session 6 (in class- 3 hours): Environmental Collapse or Renewal: Past and Present
Reading:

*Session 7 (field trip- 3 hours): Contemporary German Settings
Site-visit:
Hamburg: sustainable urbanism at the HafenCity, especially Behnisch & Partner, Unilever Konzernzentrale and Marco Polo Tower (2010).

Reading:

Session 8 (in class- 3 hours): The Urban Dimension

Reading:

Session 9 (in class- 3 hours): Presentations I: Urban Analysis

*Session 10 (field trip – 6 hours): Post-Industrial Landscapes

Site-visits:
Ruhrgebiet: Emscher Park; Essen/Gelsenkirchen: OMA, Zollverein Park (masterplan 2002); SANAA, Zollverein School (2002); Latz + Partner, Duisburg-Nord Landscape Park (1994).

Reading:

Session 11 (in class- 3 hours): Buildings and the Comfort Zone

Readings:

Session 12 (in class- 3 hours): Design and Sustainability: High Tech vs. Low Tech Solutions

Reading:

*Special: Guest Presentation: Anna Heringer and/or Eike Roswag (Ziegert Roswag Seiler Architekten, Berlin), METI Handmade School in Rudrapur, Bangladesh (2006), featured in the New York MoMA’s “Small Scale Big Change” exhibition, fall 2010.

Session 13 (in class - 3 hours): German Ecology/ Politics and Policy

Reading:

*Special: Guest Presentation: Representative from Firma Haacke Haus (Hr. Hoffmann?) to discuss timber construction in Germany and the Passivhaus.

*Session 14 (field trip- 3 hours): Contemporary German Settings

Site-visit:
Berlin: Plattenbau conversion in Hellersdorf and/or Marzahn.

Reading:
Session 15 (in class– 3 hours): Green Revolution
Readings:

*Session 16 (field trip- 2 hours): Contemporary German Settings
Site-visit:
Reading:

Session 17 (in class-3 hours): Presentations II: Architectural Analysis

Session 18 (in class-1,5 hours): Final Exam

Additional sites (and possible student project topics):

(*) indicates a site visit scheduled outside of the normal seminar class time.

Instructors

Raised in New York City, Jan Otakar Fischer graduated from Williams College in 1985 with Honors in the History of Ideas and later went to the Harvard University Graduate School of Design to receive his Masters in Architecture in 1990. He is a regular contributor to a wide range of publications, including The New York Times, the Harvard Design Magazine, the International Herald Tribune, and the Architectural Record, writing chiefly about European architecture and urbanism. Since 2009 he has been a contributing editor at Places magazine (http://places.designobserver.com/). He teaches urban studies and history at the IES Berlin Metropolitan Studies Program, and has served as an invited guest critic or lecturer at the Technische Universität in Berlin, the University of Warsaw Architecture School, and the Architectural Association in London. He has worked as an architect in Berlin since 1994, and was co-founder of the Lexia Berlin Architecture Program.

Associate Professor Peter Wiederspahn, B.Arch, M.Arch, graduated from Syracuse University and the Harvard University Graduate School of Design. At Northeastern University, he coordinates and teaches the Comprehensive Design Studio, Housing and Aggregation Design Studio, 1960s Urbanism Design Studio, and the building construction course, Tectonics: The Art of Building. He is the principal of Wiederspahn Architecture, LLC, with projects produced in Boston, New York, and Chicago. The firm has received numerous design excellence awards and design research grants from the Boston Society of Architects and the Graham Foundation. He is currently developing e3co System™ (Ecological Comprehensive Component Construction System): a parametrically prefabricated-panel construction. A full patent application has been filed for e3co System™, and it is the basis of the School of Technological Entrepreneurship's I-Cubator project with the ultimate goal of developing a building systems manufacturing business in China.
Prerequisites
This course requires that the following prerequisites be completed satisfactorily before you will be allowed to take this course. If it is discovered that you have not completed these prerequisites, you may be dropped from the course at any time during the semester:

ARCH 2340 Twentieth Century Architecture and Urbanism

GRADING
The Architecture Department guidelines for studio course grading can be found at the following web site:
http://www.architecture.neu.edu/student_resources/grading_policy/seminar_course

Academic Honesty
Northeastern University is committed to the principles of intellectual honesty and integrity. All members of the Northeastern community are expected to maintain complete honesty in all academic work, presenting only that which is their own work in tests and assignments. If you have any questions regarding proper attribution of the work of others, contact your professor prior to submitting work for evaluation. For more detail refer to:
http://www.northeastern.edu/osccr/academichonesty.html
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Project Assignment II: Architectural Analysis

During the first half of the course we discussed general issues surrounding the sustainability debate and also the challenges facing 21st century cities. You will now turn your attention to specific architectural projects within Berlin that have each brought innovative design solutions to bear on the problem of making the construction and/or maintenance of buildings more energy-efficient and less wasteful.

The second assignment for the course, therefore, will be to produce an architectural analysis (graphically rendered, any medium) of an existing building or building ensemble in Berlin, showing how sustainable goals have been met on the site in question—and possibly how they have fallen short. You will then produce a projection based on the criteria elaborated below.

You will divide yourselves into groups of three (one group of four for Case Study #8). Each team of students will select a building or building complex drawn from a list provided below. Eight sites will be addressed and each team should choose a different one. Note: The team members should not have worked together on previous projects this semester (make new groupings). Each presentation will last twenty minutes, with ten minutes left over for questions.

For your analysis you should identify the components of the following categories:
- Energy: passive and/or active energy strategies, thermal mass, renewable energy sources (sun, wind, geothermal, hydro, others), efficient energy sources (co-generation, biofuels, geothermal, others).
- Structure: wall, frame, lightweight or massive, structural integration.
- Enclosure: facade treatment, materials.
- Siting: solar orientation, urban/suburban, micro-climate, infrastructural systems (water and waste management).

When possible, add relevant data to your presentation (land use characteristics, traffic patterns, adaptive reuse potential, probable CO2 emissions, unique site qualities, others). We don’t expect a scientific analysis, but one that sensitively combines empirical and personal investigation. Don’t hesitate to interview local experts or residents on site.

For your speculative projection you should: either subtract or add at least one sustainable element or system to the case study in question that you believe would improve the project, and explain why your subtraction or addition would result in a more efficient, less wasteful, or even more architecturally elegant structure.

For your presentation you should include the following items:
- Site plan (feel free to employ Google Earth and other digital resources)
- Site photos (optimally your own, or others if site access is limited)
- Ground floor plan (these may be scanned or captured digitally)
- Typical upper level floor plan (these may be scanned or captured digitally)
- Sections (these may be scanned or captured digitally)
- Diagrams explaining your proposed transformations

Presentation date: Wednesday, April 13th

Case Studies (all in Berlin)


