MAS.961

The World of Night: Interaction Design for Nighttime

Instructors
Susanne Seitinger, Smart Cities Group, Media Laboratory
Office: E15-120g   Email: susannes@mit.edu
Anne Beamish, Design Laboratory + Department of Urban Studies and Planning
Office: NE18-4FL   Email: abeamish@mit.edu

Time
Wednesday, 10:00 AM – 1:00 PM

Location
Room E15-468

Stellar:
http://stellar.mit.edu/S/course/MAS/fa09/MAS.961/

Description
We are creatures of the day, but night is part of us and shapes our social, cultural and economic lives. Night is ubiquitous, predictable, and inevitable, yet we largely ignore it. This class will explore the world of night and the city as a context for interaction design and investigate ways of creating and imagining new and exciting urban experiences through new technologies, innovative interaction scenarios, and urban design interventions.

The seminar has two objectives: (1) explore the theme of nighttime and the city through multiple disciplinary lenses; and (2) support project-based interventions that rethink how urban lighting and display and other new technologies might transform the experience of the city at night.
The seminar will explore the many facets of nighttime in urban environments through different disciplinary lenses ranging from analytical approaches in psychology, sociology, environmental studies, and history to design approaches in human-computer interaction, interaction design, urban design, planning, architecture, and lighting design. Our focus will be on the personal human experience in different nighttime contexts. Topics will include: the physiological perception of light and dark; the psychological perception and experiential effects of light on human beings individually and in social settings; history of night; sociology of night; technology and the development of lighting; night and the city; and creative use of lighting in urban settings.

Students will be encouraged to explore the technological innovations that designing for nighttime holds. In collaboration with Media Lab sponsors (Philips Lighting and Philips Color Kinetics, TBD), we will also experiment with the creative uses of LED lighting and different types of control systems. Students will also reflect critically on the use of current technologies and propose alternative uses, approaches and systems.

The class is intended for students from a range of backgrounds including: urban, architectural, engineering, computer science, interaction design, and new media, and is open to all graduate students as well as undergraduates (by permission of the instructors).

Course Structure
The course will involve a combination of lectures by the instructors and visiting guest speakers representing different disciplines, discussion of readings, exercises, and a final project. The class will encourage open-ended exploration of the theme and promote interdisciplinary approaches and teamwork.

Requirements
Class preparation: In preparation for each class, the students will be asked to read selected articles and/or participate in an exercise, experiment, or field trip, and write a reflective essay.

Exercises: There will be a series of four exercises that explore different aspects of night, light, and the city. (See handouts for more information.)

Exercise #1: Document Your Use of Technology at Night
Document your use of technology at night for one week. You can use any means of capturing data that is appropriate. Distill your observations into a presentation.

Exercise #2: Document Central Square/Kendall Square
To help you better understand the site, define problems and issues, and help identify possible directions for your final project, you will document Central Square or Kendall Square, its users, and its uses at night. In addition, borrow one of the light meters and take measurements of different urban spaces.

Exercise #3: 24-Hour Work | Night Work
Observe a 24h workplace or worker for one night and document your observations and impressions. You can shadow someone you already know or choose from a list of potential people. Some ideas include a 24h store such as
CVS, hospital, factory setting, architectural studio, start-up company, security guard in museum or large building, etc.

**Exercise #4: Field Trip to Waterfire in Providence, RI and/or Observatory Night**
Students are highly encouraged to participate in both field trips, but at least one is required. In both cases, document your impressions and observations through diagrams, drawings, photographs, and other field notes.

**Final project:** The final project is intended to allow students to investigate topics that are of particular interest to them. Each student will propose and complete a project on night and the city based in Central and/or Kendall Square that reflects and explores their interests and background. However, other types of projects are possible, such as a design proposal, event, experiment or study, or a research paper. In Week 4, students will present their preliminary project proposal, in week 6 a revised proposal, with the demo on Week 13 and presentation/review in Week 14. (See handout for more information.)

**Attendance and Participation:** Lively and engaged participation in all aspects of the class is expected. Since this class meets only once a week, attendance is mandatory. Students should inform the instructors if they are unable to attend class, and will be responsible for any material covered in the missed class.

**Grading**

- Exercises (4) ............................................................................................................. 40%
- Final Project and Presentation .................................................................................. 40%
- Participation (attendance, discussion) ...................................................................... 20%
- Total ........................................................................................................................ 100%

Final grades are based on a weighted average for the term. Grade cutoff points are as follows: A = 93-100%; A- = 90-92.9%; B+ = 87-89.9%; B = 83-86.9%; B- = 80-82.9%; C+ = 77-79.9%; C = 73-76.9%; C- = 70-72.9%; D+ = 67-69.9%; D = 63-66.9%; D- = 60-62.9%; F = <60

**Disabilities:** If you have a documented disability, or any other concerns that you think may affect your ability to perform in class, please speak with the instructors early in the semester so that arrangements may be made to accommodate you. For MIT’s policy and process, see http://studentlife.mit.edu/dso/students.

**Academic Integrity:** Please see http://web.mit.edu/academicintegrity/ for an overview of MIT’s (and this class’s) expectations in terms of academic integrity, citing sources, and plagiarism.

**Important Note on Field Research**
If you are new to field research or work with human subjects, please be conscious of your obligations towards your research subjects. You are responsible for upholding the high ethical standards of research at MIT, which includes treating any data with the utmost discretion to protect your subjects. If you have not completed the MIT COUHES Human Subjects Training online training you must do so and provide the instructors with proof of your completion. (http://web.mit.edu/osp/www/hs-training.htm)
Updated on September 15, 2009

Selected Readings
Assigned readings will be taken from the following list as well as from other sources, and will be available on the Stellar class website in the "Materials" section. <http://stellar.mit.edu/S/course/MAS/fa09/MAS.961/>. Please complete all required readings in advance of each class. (See class schedule for list.)

General Overview


History of Technology


Economy of Night / Night Work


Urban Form and City Life


Display, Signage, and Lighting


City at Night (managing light; lighting plans; environmental concerns)


Lighting Design and Practice


Interaction


Sleep


Methodology


## SCHEDULE

### Week 1

**Wednesday, September 9**

**Informational Meeting**

---

### Week 2

**Wednesday, September 16**

*I The World of Night – AB+ SS*

Introduction to the broad themes of the course and the site Central / Kendall Square

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00-11:30</td>
<td>Lecture (AB + SS)</td>
<td></td>
</tr>
<tr>
<td>11:30-1:00</td>
<td>Guest Speaker: Iram Farooq, Senior Planner, City of Cambridge</td>
<td></td>
</tr>
</tbody>
</table>

**Readings:**


*Note: WaterFire will take place in Providence, Saturday, September 19th*

---

*AB – Anne Beamish, SS – Susanne Seitinger*

### Week 3

**Wednesday, September 23**

**Sensing the Night + Interaction after Dark— SS**

Perception, how vision works at night, impact of darkness on other senses, psychology of nighttime.; Sociology and interaction models for nighttime, person-person, group interactions, crowd dynamics in public spaces. Interaction design for unconventional users and settings.

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00-11:30</td>
<td>Lecture (SS)</td>
<td></td>
</tr>
<tr>
<td>11:30-1:00</td>
<td>Presentation: Exercise #1 (Use of Technology at Night)</td>
<td></td>
</tr>
</tbody>
</table>

**Readings:**

Philips. city.people.light. Online Outdoor Lighting Workbook.


Updated on September 15, 2009


Optional:

Week 4

Wednesday, September 30

History of Night and Lighting up to 19th Century — SS

10:00-11:00  Lecture (SS)

11:00-12:00  Presentation: Exercise #2 (Central and/or Kendall Square)
Guest Reviewer: Iram Farooq, Senior Planner, City of Cambridge

12:00-1:00  Presentation: Preliminary proposal for final project
Guest Reviewer: Iram Farooq, Senior Planner, City of Cambridge

Readings:

Optional:

Week 5

Wednesday, October 7

Economy of Night — AB

Shopping; 24hr cities, shift work, 24hr work places, large-scale patterns of using cities at nighttime, night life, night workers

10:00-11:30  Lecture (AB)

11:30-1:00  Presentation: Exercise #3 (Night work)
Updated on September 15, 2009

Readings:
London Hazards Centre. LHC Factsheet - Working time: Part 1: Shift work and night work.

Optional:

Note: The final WaterFire will take place in Providence, Saturday, October 10th

Week 6

Wednesday, October 14 (Media Lab sponsor week)

Hands-on Workshop — SS

Due: Hand in revised proposal

Week 7

Wednesday, October 21

Nighttime, City Life, and Urban Form — AB
Impact of night and lighting technology on urban form and city life; safety and aesthetic concerns.

10:00-11:30 Lecture (AB)

11:30-1:00 Guest Speaker: Iram Farooq, Senior Planner, City of Cambridge

Readings: TBD

Optional:
Week 8

Wednesday, October 28

**History of Display and Lighting 20\textsuperscript{th} -21\textsuperscript{st} Century — SS**

Continuation of lecture in Week 4.

10:00-11:30  **Lecture** (SS)

11:30-1:00  **Guest Speaker**: Sandy Isenstadt (Yale University) and/or Dietrich Neumann (Brown University) (TBC)

**Readings:**


Week 9

**Wednesday, November 4**

**Celebrating the Night — AB**

Public art, spectacle, celebrations and festivals.

10:00-11:00  **Lecture** (AB)

11:00-11:30  **Presentation** Exercise #4 (WaterFire)

11:30-1:00  **Guest Speaker**: Lillian Hsu, Cambridge Arts Council (TBC)

**Readings:** TBD


Week 10

**Wednesday, November 11 Veterans’ Day** (no class)
Week 11

Wednesday, November 18

The City at Night — AB
Managing the light; lighting masterplans and guidelines, environmental concerns related to nighttime, Dark Sky Association and community efforts to manage light pollution (urban sky glow, glare, light trespass, clutter, and energy waste).

10:00-11:30  Lecture (AB)

Presentation Exercise #4 (Observatory Night)

11:30-1:00  Guest Speaker: J. Kelly Beatty, Sky & Telescope's Senior Contributing Editor, Brookline MA (TBC)

Readings:


Optional:


Week 12

Wednesday, November 25 (Thanksgiving Week)

Work-in-progress

Week 13

Wednesday, December 2

Demo and Document Project (evening class)
Week 14

Wednesday, December 9

**Final Presentations and Review**

**Guest Reviewers:** TBD. William J. Mitchell; Dennis Frenchman, Iram Farooq, Senior Planner, City of Cambridge; and others.