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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

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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>)

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## 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

- Dewdney, Christopher. 2004. *Acquainted with the Night: Excursions Through the World After Dark*. New York: Bloomsbury.
- Ekirch, A. Roger. 2005. *At Day's Close: Night in Times Past*. New York: Norton.
- Jakle, John A. 2001. *City Lights: Illuminating the American Night*. Baltimore: The Johns Hopkins University Press.
- Melbin, Murray. 1987. *Night As Frontier : Colonizing The World After Dark*. New York: Free Press.
- Milne, L. J., M. J. Milne, T.M. Shortt. 1956. *The World of Night*.
- O'Dea, William T. 1958. *The Social History of Lighting*. Routledge and Paul. London.
- Otter, Chris. 2008. *The Victorian Eye: A Political History of Light and Vision in Britain, 1800-1910*. Chicago University Press.
- Palmer, Bryan D. 2000. *Cultures of Darkness: Night Travels in the Histories of Transgression*. New York: Monthly Review Press.
- Tanizaki, Junichiro. 1977. *In Praise of Shadows*. Sedgwick, ME: Leete's Island Books.

## History of Technology

- Bowers, Brian. 1998. *Lengthening the Day: A History of Lighting Technology*. New York: Oxford University Press.
- Cooke, Lawrence S., ed. 1976. *Lighting in America: From Colonial Rushlights to Victorian Chandeliers*. New York: Main Street/Universe Books.
- Hecht, Jeff. 1999. *City of Light: The Story of Fiber Optics*. New York: Oxford University Press.
- Nye, David E. 1992. *Electrifying America: Social Meanings of a New Technology, 1880-1940*. Cambridge: The MIT Press.
- Schivelbusch, Wolfgang. 1988. *Disenchanted Night: The Industrialization of Light in the Nineteenth Century*. Berkeley, CA: The University of California Press.

## Economy of Night / Night Work

- Gies, Martha. 2004. *Up All Night*. Corvallis: Oregon State University Press.
- Sandhu, Sukhdev. 2007. *Night Haunts : A Journey through the London Night*. London: Artangel.
- Sharman, Russell Leigh, and Cheryl Harris Sharman. 2008. *Nightshift NYC*. Berkeley: University of California Press.

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### Urban Form and City Life

- Caldwell, Mark. 2005. *New York Night: The Mystique and its History*. New York: Scribner.
- Newman, Robert and James Caras. 2006. *Safer Nights, Safer City: Recommendations of the NYC Council from the Nightlife Safety Summit*. New York: City Council.
- Schlör, Joachim. 1998. *Nights in the Big City: Paris, Berlin, London 1840-1930*. London: Reaktion Books.
- Tell, Darcy. 2007. *Times Square Spectacular: Lighting Up Broadway*. New York: Collins.
- Zardini, Mirko, ed.. 2005. *Sense of the city: an alternate approach to urbanism*. Montréal, QC: Canadian Centre for Architecture = Centre canadien d'architecture.

### Display, Signage, and Lighting

- Boyer, M. C. 1996. *CyberCities: Visual Perception in the Age of Electronic Communication*. New York: Princeton Architectural Press.
- Neumann, D. 2002. *Architecture of the Night: The Illuminated Building*. Munich: Presetel.
- Struppek, M. 2006. "The Social Potential of Urban Screens." *Visual Communication* 5, 2 (2006): 173-188.
- Venturi, R. and D.S. Brown. 2004. *Architecture as Signs and Systems: For a Mannerist Time*. Cambridge, MA: Belknap Press of Harvard University Press.

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

- Armengaud, March, and Mathias Armengaud, Alessandra Cianchetta. 2008, 2009. *Nightscapes*. GG land & scape series.
- Bogard, Paul, ed. 2008. *Let There Be Night: Testimony on Behalf of the Dark*. Reno: University of Nevada Press.
- Carr, Stephen. 1973. *City Signs and Lights*. Cambridge: The MIT Press.
- Mizon, Bob. 2002. *Light pollution: Responses and Remedies*. New York: Springer.

### Lighting Design and Practice

- Brandi, Ulrike. 2007. *Light for Cities: Lighting Design for Urban Spaces. A Handbook*. Basel: Birkhäuser.
- Narboni, R. 2004. *Lighting the Landscape: Art Design Technologies*. Basel: Birkhäuser.
- Philips Design. 1997, *City, People, Light*. Report by Philips.
- Philips Design. 2007, *City, People, Light: Future Urban Lighting Concepts*. Report by Philips.
- Santen, Christa van. 2006. *Light Zone City: Light Planning in the Urban Context*. Basel: Birkhäuser.

## Interaction

- Aoki, P. M., Honicky, R. J., Mainwaring, A., Myers, C., Paulos, E., Subramanian, S., and Woodruff, A. 2009. A vehicle for research: using street sweepers to explore the landscape of environmental community action. In ***Proceedings of the 27th international Conference on Human Factors in Computing Systems*** (Boston, MA, USA, April 04 - 09, 2009). CHI '09. ACM, New York, NY, 375-384. DOI= <http://doi.acm.org/10.1145/1518701.1518762>
- Leahu, L., Thom-Santelli, J., Pederson, C., and Sengers, P. 2008. Taming the situationist beast. In ***Proceedings of the 7th ACM Conference on Designing interactive Systems*** (Cape Town, South Africa, February 25 - 27, 2008). DIS '08. ACM, New York, NY, 203-211. DOI= <http://doi.acm.org/10.1145/1394445.1394467>
- Norman, Donald. 1998. ***Invisible Computer***. Cambridge, MA: MIT Press.
- Paulos, E. and Goodman, E. 2004. The familiar stranger: anxiety, comfort, and play in public places. In ***Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*** (Vienna, Austria, April 24 - 29, 2004). CHI '04. ACM, New York, NY, 223-230. DOI= <http://doi.acm.org/10.1145/985692.985721>
- Saffer, Dan. 2007. ***Designing for Interaction***. Voices That Matter.
- Weiser, Mark. 1991. ***The Computer for the 21st Century***. <http://nano.xerox.com/hypertext/weiser/SciAmDraft3.html>

## Sleep

- Steger, Brigitte, and Lodewijk Brunt. 2003. ***Night-Time and Sleep in Asia And the West: Exploring The Dark Side of Life***. New York: Routledge.
- Summers-Bremner, Eluned. 2008. ***Insomnia: A Cultural History***. London: Reaktion Books.
- Wright, Lawrence. 2004. ***Warm and Snug: The History of the Bed***. Charleston, South Carolina: The History Press.

## Methodology

- Livingston, E. 1987. "Pedestrian Traffic Flow," Chapter 6 in ***Making Sense of Ethnomethodology***. Routledge & Kegan Paul Books Ltd.
- Marcus, Clare Cooper and Carolyn Francis. 1990. Chapter 8: Post-Occupancy Evaluation. In ***People Places: Design Guidelines for Urban Open Space***. New York: John Wiley and Sons.
- Project for Public Spaces. 2000. Workbook for Evaluating Public Spaces. In ***How to Turn a Place Around: A Handbook for Creating Successful Public Spaces***. New York: Project for Public Spaces.
- Sharman & Sharman. 2008. Prologue: Nightfall In ***Nightshift NYC***. p. 1-9. <Sharman-2008-prologue.pdf>
- Whyte, W. F. 1984. ***Learning from the Field: A Guide from Experience***. Beverly Hills: Sage Publications.

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## SCHEDULE

Week 1

Wednesday, September 9

*Informational Meeting*

Week 2

Wednesday, September 16

***The World of Night – AB+ SS\****

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

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

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

**Readings:**

Dewdney, Christopher. 2004. Chapter 1: First Night and Chapter 5: Trip the Night Fantastic In *Acquainted with the Night*. p. 1-16; 87-117.

**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.

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

11:30-1:00 **Presentation:** Exercise #1 (Use of Technology at Night)

**Readings:**

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

[http://www.lighting.philips.com/in\\_en/trends/city\\_people\\_light/index.php?main=gb\\_en&parent=1&id=in\\_en\\_trends&lang=en](http://www.lighting.philips.com/in_en/trends/city_people_light/index.php?main=gb_en&parent=1&id=in_en_trends&lang=en)

Philips. 2004. Talk Atmosphere. Part 1. p.4-35.

Zardini, Mirko, ed.. 2005. Introduction. In *Sense of the city: an alternate approach to urbanism*. p. 16-25.

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Paulos, E. and Goodman, E. 2004. The familiar stranger: anxiety, comfort, and play in public places. In *CHI'04*. p. 223-230.

*Optional:*

Goffman, E. 1959. Chapter TBD. *The Presentation of Self in Everyday Life*. Garden City, N.Y., Doubleday.

Tanizaki, Junichiro. 1977. *In Praise of Shadows*.

Institution of Lighting Engineers. 2005. Chapter 1: Visual Effects of Lighting. In *Outdoor Lighting Guide*. London, New York: Taylor Francis, p. 1-9.

Bean, Robert. 2004. *Lighting: Interior and Exterior*. Oxford, Burlington, MA: Architectural Press, Part 1, p.3-162, Part 3: Chapter 24, p. 275-280.

### Week 4

#### Wednesday, September 30

##### **History of Night and Lighting up to 19<sup>th</sup> 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:**

Nye, David E. 1992. Chapter 1: Middletown Lights Up. In *Electrifying America: Social Meanings of a New Technology, 1880-1940*. p. 1-28.

Otter, Chris. 2008. Chapter 6: Securing Perception: Assembling Electricity Networks. In *The Victorian Eye: A Political History of Light and Vision in Britain, 1800-1910*. p. 214-252.

Jakle, John A. 2001. Chapter 5: Lighting City Streets In *City Lights*. p. 93-122.

*Optional:*

Bouman, Mark J. 1987. Luxury and Control: The Urbanity of Street Lighting in Nineteenth-Century Cities. In *Journal of Urban History* 1987; 14; p. 7-37.

Otter, Chris. 2008. Chapter 5: Technologies of Illumination: 1870-1910. In *The Victorian Eye: A Political History of Light and Vision in Britain, 1800-1910*. p. 173-213.

O'Dea, William T. 1958. *The Social History of Lighting*. Routledge and Paul. London.

### 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)

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**Readings:**

- Sandhu, Sukhdev. 2007. "Cleaners" and "Samaritans". In *Night Haunts*. p. 30-47.
- Sharman & Sharman. 2008. "I'll Take My Chances on the Nightshift" and "A Stillness." In *Nightshift NYC*. p. 29-43; 57-64.
- Carpentier, James and Pierre Cazamian. 1977. *Night work: its effects on the health and welfare of the worker*. p. 1-44.
- London Hazards Centre. *LHC Factsheet - Working time: Part 1: Shift work and night work*.
- Grumiau, Samuel. 2002. Night Work - The Dark Side. *Labour Education* 1 (126).

*Optional:*

- Patel, Reena. 2008. *Working the Night Shift: Women's Employment in the Transnational Call Center Industry*. PhD Dissertation, The University of Texas at Austin, Austin.

**Note: The final WaterFire will take place in Providence, Saturday, October 10<sup>th</sup>**

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

- Mizon, Bob. 2002. Security Lamps and Crime. In *Light Pollution*. p. 57-63.
- Schivelbusch, Wolfgang. 1988. The Street. In *Disenchanted Night*. p. 79-134.
- Schlör, Joachim. 1998. A Beginning. In *Nights in the Big City*. p. 33-56.
- Schlör, Joachim. 1998. Night-walking. In *Nights in the Big City*. p. 235-274.

*Optional:*

- Baldwin, Peter C. 2004. In the Heart of Darkness: Blackouts and the Social Geography of Lighting in the Gaslight Era. *Journal of Urban History* 30 (5):749 - 768.
- Clark, B. A. J. 2002. *Outdoor Lighting and Crime, Part 1: Little or No Benefit*. Victoria, Australia: Astronomical Society of Victoria. p. 1-64.
- Clark, B. A. J. 2003. *Outdoor Lighting and Crime, Part 2: Coupled Growth*. Victoria, Australia: Astronomical Society of Victoria. p. 1-117.

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### Week 8

#### Wednesday, October 28

##### **History of Display and Lighting 20<sup>th</sup> -21<sup>st</sup> 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:**

Nye, David E. 1992. Chapter 2: The Great White Way. In *Electrifying America: Social Meanings of a New Technology, 1880-1940*. p. 29-84.

Behind the Bright Lights. 1935. <http://www.archive.org/details/Behindth1935>

Woods, Mary. 2002. Photography of the Night: Skyscraper Nocturne and Skyscraper Noir in New York. In *Architecture of the Night: The Illuminated Building*. p. 68-76.

##### *Optional:*

Schivelbusch, Wolfgang. 1988. Night Life. In *Disenchanted Night*. p. 135-154.

### 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

Jakle, John A. 2001. Chapter 6: Light as City Celebration. In *City Lights*. p. 123-142.

Schuster, J. Mark. 1995. Two Urban Festivals: La Merce and First Night. *Planning Practice and Research* 10 (2). p. 173-187.

### 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:**

Raymo, Chet. Why the Night Sky is Dark. 2008. In *Let There Be Night*. P. Bogard (ed.) p. 52-60. <Raymo-2008.pdf>

Chepesiuk, Ron. 2009. Missing the Dark: Health Effects of Light Pollution. *Environmental Health Perspectives*. 117 (1):20-27. <Chepesiuk-2009.pdf>

Claudio, Luz. 2009. Switch on the Night: Policies for Smarter Lighting. *Environmental Health Perspectives* 117 (1):28-31. <Claudio-2009.pdf>

Brandi, Ulrike. 2007. *Light for Cities: Lighting Design for Urban Spaces. A Handbook*. Basel: Birkhäuser.

*Optional:*

The Dark Sky Society. 2009. *Guidelines for Good Exterior Lighting Plans*. <LightingGuidelines-2009.pdf>

Harder, Susan, and Tom Horn. 2008. *Municipal Guidelines for Lighting in the Right-of-Way*. <Harder&Horn-2008.pdf>

International Dark-Sky Association. 2002. *Outdoor Lighting Code Handbook*. <IDA-Handbook-2002.pdf>

New York City Audubon Society. 2007. *Bird-Safe Building Guidelines*. <NYC-Birdsafe-Guidelines-2007.pdf>

Week 12

Wednesday, November 25 (Thanksgiving Week)

***Work-in-progress***

Week 13

Wednesday, December 2

***Demo and Document Project (evening class)***

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*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.