

MAS 552 / 4.557 Innovation Hubs, Integrating Technology + Design [QUITO LAB]

MIT Spring 2014, 1:30 - 4:30 pm

Room E14-525, Credit 3-0-9

Instructors

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Introduction

Class Description – The world is experiencing a period of extreme urbanization and we are radically changing the way we live. There is a unique opportunity to design innovation districts to spur economic growth, attract new talent and foster creativity. We want to explore potential strategies for defining how cities best undertake “innovation” activities in existing urban environments. This semester, we will focus on the historical center of Quito, Ecuador, the first World Heritage Site declared by UNESCO in 1978.

Experts from relevant fields will conduct guest lectures. We will engage students in the process of identifying relevant problems, designing project ideas, and evolving them to a detailed set of digital technology and design scenarios for urban and technology ventures. To capture the multi-disciplinary nature of such projects, students are challenged to focus on diverse fields for their proposals, such as social innovation, city planning, architecture, engineering, computer science, and social science. The concepts developed will be evaluated and critiqued throughout the semester. Students will be asked to develop project proposals to support their initiatives, and focus on the design of resilient, scalable, adaptable, and reconfigurable systems.

We will focus on themes and challenges defined by the city. Quito is looking to attract 21st century industries and activities to build a new Innovation District as well as improve the quality of life for existing residents, students, and workers in the historic town center.

Workshop Structure

This course will explore 3 modules of innovation in urban environments:

- 1) Background + research:** technological infrastructure/data-driven innovation
- 2) Site visit + project development:** site exploration/analysis/data collection/project design
- 3) Project development + Social Revolution:** project development/social innovation

Grading

Attendance and Class Participation 10%

Reflection Essay: Assignment #1 10%

Reflection Essay: Assignment #2 10%

Visual Story: Assignment #3 20%

Midterm Presentation 25%

Final Presentation 25%

Projects will be graded on presentation quality, innovation and creativity, potential feasibility, and appropriateness to the site and its brief.

City Science Lunch Talks

Each week the City Science Initiative invites expert guest speakers to talk about innovation in cities immediately before class from 12-1:30pm (in room E15-383). Students of the class are expected to attend a key number of these talks as they are integral to the course. The mandatory talk schedule will be discussed on the first day of class (Feb 5, 2014)

Guest Lecture Schedule

FEBRUARY 5	Introduction to class and lunch series
FEBRUARY 12	Dickson Despommier / Urban farming / Columbia University
FEBRUARY 19	*Alicia Rouault / Local Data / Data driven analysis
FEBRUARY 26	*Andrew Blum / Urban technology infrastructure
MARCH 5	*Andres Garzon / Jobsity-Deliktum / Social innovation
MARCH 12	*Robin Chase / Zipcar founder / Social Entrepreneurship
MARCH 19	*Nicco Mele / Media Politics and Power in the Digital Age
MARCH 26	SPRING BREAK / Quito site visit and workshop
APRIL 2	*Gordon Jones / Harvard Innovation Lab – Site Visit
APRIL 9	*Sandy Pentland / Social Physics / MIT Media Lab
APRIL 16	* William Eggers / Solution Revolution / Deloitte Global Public Initiative
APRIL 23	SPONSOR WEEK / Open house
APRIL 30	*Rahul Mehrotra / Harvard Chair of Urban Planning and Design
MAY 7	Richard Saul Wurman / (TBC)
MAY 14	Mayor of Boston (TBC)
MAY 21	Final Review

*Required lectures

Assignments (Due Date)

Feb 26th – Reflection Essay # 1 on *Tubes: a Journey to the Center of the Internet* (Andrew Blum)

March 12th – Reflection Essay # 2 on *The Solution Revolution* (William Eggers)

March 21st – Visual story on Quito’s historic center

April 9th – Mid-term Project Proposal

April 30th – In class critique

May 21st – Final Review

Class Schedule (subject to change)

Week Date	Session Overview	Lectures
February 5	<p>FIRST CLASS MEETING E-14 525</p> <ul style="list-style-type: none"> • Introduction to Class: Ryan Chin, Ramiro Almeida to discuss logistics, syllabus, course trip, intro to City Science Group • Presentation on Quito Case Study: Ramiro Almeida 	
February 12	<ul style="list-style-type: none"> • Urban Farming / CityFarm Discussion (Caleb Harper) • Quito Context: Understanding innovation in a historic site 	Dickson Despommier / Urban farming / Columbia University
February 19	<ul style="list-style-type: none"> • Discuss and use the LocalData platform to collect and visualize qualitative data in the field / Quito context • CityScope demo (Ira Winder) 	Alicia Rouault / LocalData / Data driven analysis
February 26	<p><u>Assignment #1 due on <i>Tubes</i> Essay</u></p> <ul style="list-style-type: none"> • Discussion of <i>Tubes</i> and urban innovation infrastructure • CityHome demo (Hasier Larrea-Tamayo) 	Andrew Blum / Urban technology infrastructure
March 5	<ul style="list-style-type: none"> • Social Innovation: Discussion of Deliktum, a platform for visualizing crime data to increase safety through efficiency 	Andres Garzon / Jobsity-Deliktum / Social innovation
March 12	<p><u>Assignment # 2 on <i>The Solution Revolution</i> (William Eggers)</u></p>	William Eggers / Solution Revolution / Deloitte

	<ul style="list-style-type: none"> • Business venture best practice solutions for urban problems -- from ideas to reality • Case study presentations 	Global Public Initiative
March 19	<ul style="list-style-type: none"> • <i>Media Politics and Power in the Digital Age</i>: discussion on the city-scale implications of digital advances • Seat-e / Bench-e demo (Sandra Richter on social mobility, innovative transit and urban interventions) 	Nicco Mele / Media Politics and Power in the Digital Age
March 21	<u>Assignment #3 Due: Visual story on Quito's historic center, to be reviewed in Quito</u>	No Class
March 22 - 29	<u>Quito Site Visit: TRAVEL WEEK</u> <ul style="list-style-type: none"> • Explore potential ideas for an innovation district • Site Visit, Workshop, On-site Review 	
April 2	<ul style="list-style-type: none"> • Site Visit to the Harvard Innovation Lab • Gordon Jones: Discussion on Hi-Lab initiatives • Working session - proposal design 	Gordon Jones / Harvard Innovation Lab
April 9	<u>Assignment #4 Mid-term Project Proposals Due</u> <ul style="list-style-type: none"> • Project Proposal Presentations by students • Data-driven Society: tackling urban problems (congestion, climate change) with data-informed social pressure/incentive • How can 'city science' or urban analytics determine creative output or indicate economic outcomes for growing cities 	Sandy Pentland / Social Physics / MIT Media Lab

April 16	<ul style="list-style-type: none"> Developing Ventures Talk (Joost Bonsen) Case Study Presentations (Ryan Chin, Ramiro Almeida, Alicia Rouault, Susanna Pho) 	Robin Chase (to confirm) / Zipcar / Social Entrepreneurship
April 23	<p>Media Lab Members Week Poster Sessions for Industrial Members</p> <ul style="list-style-type: none"> Members Week project engagement 	
April 30	<ul style="list-style-type: none"> Media Lab Members Week Debrief Fab-Labs (Topper Carew) Augmented Participatory Design (Aithne Sheng-Ying Pao) 	Mayor of Boston (TBC)
May 7	<ul style="list-style-type: none"> Innovation, People, Ideas and Collaboration (Richard Saul Wurman) 	Richard Saul Wurman (TBC)
May 14	<ul style="list-style-type: none"> Social Entrepreneurship and Design: discussion about solving sensitive problems through design (Rahul Mehrotra) 	Rahul Mehrotra (TBC)
May 21	<ul style="list-style-type: none"> Final Review Presentations 	Final Review

* There will be visits to the Cambridge Innovation Center and the Boston Innovation District during class time -- final dates to be announced.

Required Reading:

- *Tubes*, Andrew Blum
Available at: MIT Press (limited availability) or Amazon.com
- *The Solution Revolution: How Business, Government and Social Enterprises Are teaming up to solve Society's Toughest Problems*, William Eggers & Paul MacMillan
Available at: Harvard COOP or Amazon.com
- *Social Physics: How Good Ideas Spread—The Lessons from a New Science*, Alex Pentland
Available at: MIT Press or Amazon.com