

SYLLABUS
PUAD 851 INFRASTRUCTURE MANAGEMENT
SUMMER 2013

July 10 (9:00 a.m. to Noon) - 4035 Wescoe Hall, Lawrence Campus
July 11-12, July 18-19, July 25-26 (9:00 a.m. - 4:00 p.m.) - Various Locations “Out-in-the-field”
Instructor: Bonnie J. Johnson, Ph.D., AICP, Associate Prof. of Urban Planning
Office: 418 Marvin Hall
Office Hours: After class and by appointment
Office Phone: 785-864-7147
E-Mail Address: bojohn@ku.edu (Best way to contact me.)

*“What is the color of the sky in your world?” –
actual city planner thought while listening to actual city administrator talk. These professionals
need to work together but they might see the world differently.*

Purpose and Goals of the Course

This course was developed to introduce students to infrastructure management from a local government perspective. Infrastructure development, financing, and maintenance are among the most important functions in any local jurisdiction. This course has its genesis in the School of Engineering formerly taught specifically for public administration students.

While the course continues to focus on physical infrastructure and how systems work, the scope now includes an examination of how specialists and generalists work together and how sustainability fits into infrastructure decisions.

The course is coordinated by Bonnie with help from the School of Public Affairs and Administration’s Administrative Director Ray Hummert and many professionals throughout the region. As you will see from the course schedule, this class relies heavily on practitioner involvement and field visits.

The objectives of this course are to: 1) gain a basic understanding of how different infrastructure systems work, such as, water treatment, stormwater management, streets, etc.; 2) to improve or at least try out “systems thinking”; 3) to explore how engineers, planners, public administrators, landscape architects, architects, etc. see infrastructure differently and how they work together; 4) how the concept of sustainability impacts infrastructure decision making; and 5) innovation (because sustainability is new to many communities, it will be an innovation and we need to know what that entails).

Books, Other Readings, and Etc.

Books to purchase:

Klinenberg, Eric. (2002) *Heat Wave: A Social Autopsy of Disaster in Chicago*. Chicago, IL: University of Chicago Press.

Ascher, Kate. (2005) *The Works: Anatomy of a City*. New York: Penguin Books.

The Klinenberg book is a case study of what happens to hard and soft infrastructure systems in an extreme event. We are going to use this for “lessons” we can use to examine what might happen in Lawrence and Douglas County in a heat wave.

The Ascher book is to give us a basic understanding of how different hard infrastructure systems work and to give us an idea of what infrastructure is like in a large city (New York City).

Other readings:

Other readings are on Blackboard under “Course Documents.” Because we have such a short time period I have tried to keep the readings to a minimum and to “make them count”.

Etc.:

You need a flash drive with at least 200 MBs of free space available for ArcGIS mapping – particularly for the July 11th class (don’t forget to bring your flash drive for July 11th).

Gas money – We will be carpooling and we need to be cognizant of our carpool drivers’ expenses. If you ride with someone, please pay them for their gas. The suggested gas per mile rate used by the State of Kansas is .565 so calculate the mileage, multiply by the rate, and then divide that by the number of people in the car to get a per person amount to give to your driver.

Grading and KU’s Academic Achievement and Access Center

- Late work is penalized one grade level and any work not turned in by the end of the semester is graded F.
- Incompletes will only be given on very, rare occasion and must have a set deadline for completion. Incompletes must be requested by the student.
- KU’s Academic Achievement and Access Center (AAAC) coordinates accommodations and services for all students who are eligible. If you have a disability for which you wish to request accommodations and have not contacted AAAC, please do so as soon as possible. Their office is located on the first floor of Strong Hall; their phone number is 785-864-2620 (V/TTY). Information about their services can be found at <http://www.achievement.ku.edu/> . Please also contact me privately in regard to your needs in this course.
- If you have any concerns about successfully completing this course, come see me as soon as you start feeling uncomfortable. If you wait until the end of the course to let me know of any issues, there is not enough time for me to offer options or to do anything differently. The end of the course is too late.

- The final grade for this course will consist of the following:

	Due	
20%	Class Participation & Discussion Board Entries	---
15%	Codes of Ethics Exercise	7/15
10%	Individual Heat Wave Map	7/17
20%	How it Works Exam	7/22
15%	Group Heat Wave Map & Presentation	7/25
<u>20%</u>	There's an App for That Presentation	7/26
100%		

- The final grades for the course will be converted to letter grades as follows: 100%-96 (A), 95-90 (A-), 89-87 (B+), 86-83 (B), 82-80 (B-), 79-77 (C+), 76-73 (C), 72-70 (C-), 69-67 (D+), 66-63 (D), 62-60 (D-), less than 60 (F).
- Assignments and Exam – See “the Big Board” on the last page for how all this fits together.
 - Class Participation & Discussion Board Entries – Come to class prepared and ready to listen, learn, and ask questions. Part of your “How it Works” Exam will be questions based on what our presenters tell us about how different infrastructures work so taking notes on that will be particularly useful. Also, any advice the presenters have for how to collaborate or work with other professionals will help you later on when you have to work in a group for your Group Heat Wave Map. Paying attention to the presenters in regards to our course themes will help you get the most out of this experience. Because we will be “out-in-the-field” and going from one presentation to the next, we won’t have as much time for reflection and class discussion as I would like. To remedy that, I will post questions on Blackboard for discussion and I will be looking to see how you participate. The elements of a good discussion are: asking clarifying questions or new questions, commenting on others comments in a respectful but perhaps challenging way, and asking others to join in or asking what they think (particularly people who tend to be quiet).
 - Codes of Ethics Exercise – What do different professions “profess”?
 - Heat Wave Maps – You will get an introduction to Geographic Information System (GIS) mapping on July 11th and you will have access to a GIS expert to complete maps showing what Lawrence/Douglas County should look out for in case of a heat wave. This will use lessons learned from the *Heat Wave* book. You will do one basic map on your own then a more complete system wide map as a group for presentation to local experts on emergency management.
 - How it Works Exam – This will be a multiple choice exam that you will take online via Blackboard. It will be over vocabulary and the basics of how different infrastructure systems work. The questions will be based on what we learn from field visits and the professionals who meet with us. They will also be based on the readings, particularly, the Ascher book and the Public Works Administration chapters on Blackboard. You will be able to consult these resources and your notes while you take the exam.

- There's an App for That Presentation – Each student will select an “App” that has something to do with infrastructure and research it and then present findings to a panel of county/city managers.

NOTE: PLEASE SUBMIT YOUR ASSIGNMENTS - - OTHER THAN DISCUSSION BOARDS AND QUIZES - - THROUGH THE “ASSIGNMENTS” TAB ON BLACKBOARD, NOT THROUGH THE “DIGITAL DROPBOX.”

Plagiarism, Writing, and Library Assistance:

- Plagiarism is the use of written work by others without acknowledging the source(s). Whenever you rely on the words or ideas of other people in your work, you must acknowledge the source of the words or ideas. Failing to do so constitutes academic misconduct and may result in a grade reduction, a failing grade for the course, and may lead to dismissal from your academic program. The plagiarist destroys trust among colleagues, fellow students, and between professor and student. Without such trust, we cannot communicate and exchange work-products safely. See www.writing.ku.edu/students/guides.shtml for information on plagiarism.
- The issue of digital plagiarism has raised concerns about ethics, student writing experiences, and academic integrity. KU subscribes to a digital plagiarism detection program called Turnitin.com, which may be used to check assignments submitted in this course. You will be asked to submit assignments in a digital format so they can be checked against web pages and databases of existing work. Although you may never have engaged in intentional plagiarism, many students do incorporate sources without citations; this program can alert me to your academic needs. Please consider the use of the program as a learning tool for all of us.
- Most colleges and universities have a writing center, a place for students to talk about their writing with trained peer consultants. At KU, we call our writing centers Writer's Roosts. When you visit, bring your work in progress and an idea of what you would like to work on-organization, support, documentation, editing, etc. The Roosts are open in several different locations across campus; please check the website at www.writing.ku.edu for current locations and hours. The Roosts welcome both drop-ins and appointments, and there is no charge for their services. In addition, they provide on-line consultations. For more information, please call 864-2399 or send an e-mail to writing@ku.edu.
- The K.U. policy on academic misconduct may be found here: <http://www.ku.edu/~unigov/usrr.html#art2sect6>
- KU's library system has created resource guides for public administration, urban planning, and civil, environmental and architectural engineering. They might have just what you are looking for and if not, they will have contact information for a librarian trained in that specific area that can help you even more -
Public administration link:
<http://guides.lib.ku.edu/content.php?pid=56974>
Urban planning link:
<http://guides.lib.ku.edu/content.php?pid=75648>
Civil engineering link:

<http://guides.lib.ku.edu/content.php?pid=59570>

Civility in the Class:

At KU and in the School of Public Affairs and Administration program we focus on learning, respect for all, and a diversity of views. Because we believe that the ability to lead, facilitate, and participate in group interactions is a fundamental skill for public leaders we emphasize student assignments which give students an opportunity to develop and enhance those skill sets as well as learn the content of the course. Respectful interaction is the foundation of this course. Discussion will be focused on the learning process and should always be respectful of both students and faculty. Disagreements should focus on ideas or facts. There is no place for name calling or assaults (either in person or online) in our open discussion of ideas and issues. Should such interaction problems develop, you should notify the instructor immediately.

Things May Change :

As you can see from the schedule, this class relies a great deal on field trips and meeting with professionals. Things may happen with people's schedules or they might get sick, etc. I will do my best to keep everyone informed of any such changes and we will deal with them if/when they occur. We will just have to see what happens and be flexible and adaptive.

The Big Board

Why has the class been arranged the way it has? As the syllabus indicates at the beginning, there are 5 themes or course objectives: sustainability, innovation, systems thinking, how things work, and understanding and working with different professional viewpoints. The last page of the syllabus shows how that all adds up with the readings and assignments.

Date	Location	Topics & Readings	Schedule
July 10, Wed.	4035 Wescoe, Lawrence Campus Note: Bring copy of driver's license or get with me after class to copy it (we need to send these to WaterOne in Johnson County to be able to tour their water treatment plant).	Topics - Introductions, Coordination, and <i>Sustainability and the Professions</i> Readings – 1) University of Kansas Campus Sustainability Plan Sections: Background, Energy, Built Environment, Campus Grounds, Procurement, Waste, Transportation, and Appendix D, 2) Chapter “Introduction to Green Infrastructure”, 3) Paper “A Public Values Universe for Planners” Start Reading <i>Heat Wave</i> – if you haven't already	9:00 a.m. – 10:00 Introduction & Coordination 10:00 – 11:00 Sustainability & the Professions 11:00 – 12:00 KU's Campus Sustainability Plan with Guest Speaker, Jeff Severin, Director of KU's Center for Sustainability
July 11, Thurs.	Start – KU Facilities Services Administration building (1503 Sunflower Road) (Labeled FOB on campus map south of Stauffer-Flint Hall on Sunflower Rd.), conference room Note: Bring your flash drive with plenty of room to store large GIS maps and data files	Topics – <i>Campus as a Small City</i> - Energy, Transit, Food Systems, Infrastructure Research, GIS Training, Sustainability Readings – 1) Ascher Sections: Power (pay particular attention to Steam), The Future, 2) Chapter “Landscape Planning, Design, and Green Infrastructure” (pay attention to systems thinking), Chapter “Green Infrastructure in Practice”, 3) Article “Sustainable Development: Mapping Different Approaches”, 4) Article “The Professionalization of Everyone?”	9:00 a.m. – 10:15 Central Utilities: Tour of KU Power Plant (steam), utility tunnels with Vernon Haid, Steam Plant Supervisor & Brian Bailey, Boiler Operator 10:15 – 10:30 Walk to KS Union 10:30 – 11:30 Public Transportation: KU on Wheels and coordination with Lawrence Transit with Danny Kaiser, Assistant Director, Parking & Transit in International Room (5 th Floor) 11:30 – Get lunch or bring lunch - return to International Room for “Lunch & Learn” 11:45 a.m. – 12:50 Sustainability in Food Systems: Local food, biofuels, and composting with Sheryl Kidwell, Assistant Director, KU Dining Services 1:00 Bus – maybe Route 10 will work?/Walk to Measurement, Materials & Sustainable Environment Center (M2SEC) (west of Eaton Hall) 1:30 – 2:30 Infrastructure Research and tour of M2SEC with Craig Calixte, Administrative Assistant, Transportation Research Center 2:30 Walk to Snow Hall Computer Lab, 119 Snow 2:45 – 4:00 GIS Training – Map Making

<p>July 12, Fri.</p>	<p>Start – Olathe Municipal Services Building located at 1385 Robinson in Olathe, KS see map here: http://www.olatheks.org/PublicWorks</p> <p>Note: Wear closed toe shoes – we will be touring a water treatment plant.</p>	<p>Topics - <i>Overview of Infrastructure Issues and Public Works/Planning Functions & Water Treatment</i></p> <p>Readings – 1) Ascher under “Keeping it Clean” the Water and Garbage Sections, 2) Ch1, Introduction to Public Works Administration by Ron Norris, 3) WaterOne Brochure, 4) Look at the website for the <i>2013 Report Card For America’s Infrastructure</i> by the American Society of Civil Engineers http://www.infrastructurereportcard.org/ 5) Article “Promoting Sustainability through Transportation Infrastructure”, 6) Chapter “Modeling Cities on Ecosystems”</p> <p>Should be 1/2 way through <i>Heat Wave</i></p>	<p>9:00 a.m. – 11:00 Infrastructure and Public Works Overview with Ron Norris, Director of Public Works, Planning, and Environmental Services, City of Olathe, KS (read more about Ron here from when he was appointed to this position: http://www.olatheks.org/Newsletters/2010/2/8/Newsbriefs .</p> <p>11:00 – Lunch and travel (whatever you want to do) 1:00 – 4:00 Tour of WaterOne Treatment Plant and Public Water Utility/Water District Overview with Mike Armstrong, General Manager of WaterOne, Location: Wolcott Treatment Plant, 10900 Sam Clark Lane, Kansas City, KS 66109 (See pdf of map on Blackboard)</p>
<p>July 18, Thurs.</p>	<p>Start – City of Lawrence Wastewater Treatment Plant, 1400 East 8th Street (goto Massachusetts Street and turn east onto 8th Street go across railroad tracks)</p>	<p>Topics – <i>Planning & Infrastructure</i> – Lawrence Wastewater Treatment & Building a New Plant Plus Johnson County Planning</p> <p>Readings – 1) Ascher under “Keeping it Clean” the Sewage Section, 2) Ch. 5, Non-Regulatory Techniques to Manage Growth by Eric Damian Kelly, 3) Look at Johnson County Planning & Development Dept. webpage for information on city planning http://planning.jocogov.org/info.htm click through on More Information on Planning and Sprawl, More Information on Zoning and Districts, More Information on Plats, More Information on Lot Splits, and More Information on Planned Zoning, 6) Skim Chapters 1 and 2 of Johnson County’s <i>Rural Comprehensive Plan</i> http://planning.jocogov.org/special.htm notice in Chapter 1 how they looked at development scenarios to help citizens decide. 7) Article “Connective Capacities of Network Managers”</p> <p>Should be about done with <i>Heat Wave</i></p>	<p>9:00 a.m. – 12:00 Lawrence Wastewater Treatment & Building a New Plant with Mike Lawless, Assistant Director of Utilities 12:00 – 2:00 Lunch and travel (whatever you want) 2:00 – 4:00 Johnson County Planning Department with Director Dean Palos and his team, Location: 111 S. Cherry St., Suite 3500, Olathe, KS 66061</p>

July 19, Fri.	Start – Offices of the Mid-America Regional Council (MARC), 600 Broadway Blvd., #200, Kansas City, MO 64105	<p>Topics – <i>Regional Infrastructure</i> and <i>Legacy Infrastructure (They built all these parks, boulevards, and fountains and now what?!)</i></p> <p>Readings – 1) Ascher “Moving People” and “Moving Freight” 2) On MARC website look at “About MARC, Who We Are, and What We Do at http://marc.org/aboutmarc.htm and look at the Creating Sustainable Places program http://www.marc.org/sustainableplaces/ 3) Read about KC Parks at http://kcparks.org/about-kcpr/ click through on “History of Parks” and also look under “Fountains”, 4) Chapter “Sustainable Streets”, 5) Article “Solidarity as Political Strategy”, 6) Article “City Planning and Infrastructure”</p> <p>Should be done with <i>Heat Wave</i></p>	<p>9:00 a.m. – 12:00 a.m. Find out about MARC’s mission and how they coordinate infrastructure on a regional scale 11:30 a.m. – 1:00 p.m. Lunch and travel (whatever you want) 1:00 p.m. – 4:00 p.m. Kansas City, MO Parks and Recreation – Location To Be Determined</p>
July 25, Thurs.	Start – Lawrence-Douglas County Health Department, Community Health Facility, Second Floor Meeting Room C, 200 Maine St., Lawrence, KS	<p>Topics – <i>Heat Waves in Context</i> and <i>More Campus Sustainability – Stormwater Management</i></p> <p>Readings – 1) Booklet “From Rooftop to River: Tulsa’s Approach to Floodplain and Stormwater Management”, 2) Chapter “Lots of Excellence”</p>	<p>9:00 a.m. – 12:00 – Present Heat Wave Maps and get feedback from area professionals 12:00 – 1:30 Lunch and travel (whatever you want) 1:30 p.m. – 4:05 Wescoe with KU Project Manager with Design, Construction and Management</p>
July 26, Fri.	Start – Douglas County Commission Chambers, Douglas County Courthouse, 2 nd Floor, 1100 Massachusetts St., Lawrence, KS.	Topics – <i>There’s an App for That</i> and <i>How Do Management Teams Work?</i>	<p>9:00 a.m. – 12:00 – Presentations on Apps, Infrastructure, and Sustainability before a panel of current and former city/county managers 12:00 – 1:00 Lunch and travel (whatever you want) 1:00 – 3:00 Panel discussion on how city managers and department heads decide what to do with city managers and department heads – Location to be determined 3:00 – 4:00 Course evaluations and Wrap-up</p>

The "Big Board"

Sustainability

- Article "Sustainable Development: Mapping Different Approaches"
- Chapter "Sustainable Streets"

Innovation

- KU Campus Sustainability Plan
- Article "Promoting Sustainability through Transportation Infrastructure?"
- Article "Solidarity as Political Strategy: Post-crisis reform following the French heatwave"
- Chapter "Lots of Excellences" (parking lots)

System Thinking

- Chapter "Landscape Planning, Design, and Green Infrastructure"
- Chapter "Modeling Cities on Ecosystems"
- Book "Heat Wave"
- Chapter "Non-Regulatory Techniques to Manage Growth"
- Booklet "From Rooftop to River"

How Things Work

- Websites getting know our presenters' communities
- Book "The Works"
- Chapters from "Public Works Administration"
- Chapter "Introduction to Green Infrastructure"

Different Professional Viewpoints

- Article "The Professionalization of Everyone?"
- Chapter "Green Infrastructure in Practice"
- Article "Connective Capacities of Network Managers"
- Article "City Planning and Infrastructure: Once and Future Partners"
- Paper "A Public Values Universe for Planners: Picking up Some Fellow Travelers Along the Way"

Discussion Board Topics

- Which definition of sustainability resonates most with you and why?

- Is "civic hacking" an innovation that can catch-on?

- Different presenters and systems thinking – can you see any?

- Maps of Lawrence – Can you tell where growth will head?

- Examples of hard and soft infrastructure from Chicago heat wave case study?

- Lessons learned from Chicago heat wave case study?

- Any surprises on how things work?

- Different presenters and points of view - any evidence of how they work with different professions?

Assignments

Codes of Ethics Exercise

Individual Heat Wave Map

How it Works Exam

Group Heat Wave Map

There's an App for That Presentation