E422/E522 Urban Forest Management (Sp 2015) – Course Calendar – draft 1-10-15
Topics, Readings & Homework Assignments
Highlighted items are helpful reading guides from Burney

Week 1 – Introduction to Urban Forestry - Pretest & review; Course/Instructor introduction; Review Syllabus & Course Calendar; Introduction to urban forests, arboriculture & urban forestry; Defining the urban forest – Guest lecture - Dr. Sarah Mincey (Day 2); Brief historical review of urban forestry; Urban land use trends; Debrief guest lecture – standard class operating practice!

Reading assignments:
History of Urban Forestry (Focus on early urban tree mgmt history, particularly in the Northeast)


Defining Urban Forests and Urban Forestry (two themes here – USA history, Europe comparison)


Current Trends in Land Use (themes – land use change research; urbanization/Anthropocene)


Ehrenhalt, A. 2001 (June). Why We Don’t Have It Made in the Shade. Governing Magazine, 4p. Why We Don’t Have It Made In The Shade


The Economist. 2011 (May 26). Welcome to the Anthropocene: Humans have changed the way the world works now they have to change the way they think about it, too. 11p. Anthropocene

Discussion Paper #1
Benefits of trees in your neighborhood or campus, writing assignment – Five page maximum which should include a map, drawing, or pictures of the location (hint: Google Earth). Describe the benefits (ecological, environmental and/or social) of the trees in the neighborhood/city block/pocket park/campus area where you live (dorm, apartment complex, rental house) or recreate. To enhance your written presentation use the National Tree Benefit Calculator (www.treebenefits.com) to evaluate trees in your neighborhood to learn more about the environmental and economic benefits of urban trees. Give an accurate description (building(s) name, address) of the site you are writing about so I can find it. You are writing as a technical paper to the instructor. Due start of class Thursday, January 22, 25 pts.

Week 2 – Sustainable Urban Forests as SES’s - Sustainable urban forests and social-ecological systems; Introduction to institutions, resilience, robustness thinking and simple UF sustainability metrics; Urban trees/forests as public goods or common pool resources; Living memorials, etc.
Reading Assignments:
Sustainable Urban Forests and SES’s (course theme is urban forest sustainability within SES’s; Clark, et.al. is important reading, a benchmark UFM publication!)

See about the Bloomington Urban Forestry Research Group (2 pages) website at http://iu.edu/~cipec/research/bufrg_about.php


Intro to Sustainability & Urban Forestry (a mixture of simple urban forest sustainability "metrics")
American Forests - Setting Urban Tree Canopy Goals, 2p. Urban Tree Canopy Goals; also see http://hpigreen.com/tag/american-forest/


National Arbor Day Foundation - Tree City USA Standards, 2p. Tree City Standards; also see http://www.arborday.org/programs/treeCityUSA/standards.cfm

Urban Trees/Forests - Public Goods or Common Pool Resources? (Are public spaces/right-of-ways (ROW’s) commons? Are urban trees public goods or CPR’s?)

Discussion Paper #2
What’s in the News – find a current (2015) urban forests/forestry theme in the media and construct a discussion paper around the topic (i.e. you are reviewing more than a single media story!). Four page maximum which may include figures/tables if appropriate. The idea is that through your growing awareness of urban forestry ideas and issues, you will find (citations are necessary) something that interests you and develop a discussion paper. See the guidelines for Discussion Papers and use that as a framework. Expect to be called upon in class to briefly talk about your paper on the due day. Due start of class Thursday, February 5, 35 pts.


Reading Assignments (Selected reading, many more available and some extras are in the folder, a vibrant field of research that continues to grow!)


Peper, P.J., et.al. 2009. Lower Midwest Community Tree Guide: Benefits, Costs and Strategic Planting. USDA FS PSW-GTR-219. 115p. PSWS_GTR219_Lower_Midwest_CTG. (Read Chapter 2 in depth and Chapter 3 for an overview,


**Week 5** – **National-State-Local Players in Urban Forestry** *(general overview)* - State & National perspectives - summarization of the players, the setting & how things operate for urban forestry funding for programs & research beyond the local level; Guest Lecture - Bill Kinicus, Indianapolis City Forester

**Reading Assignments:**
Indiana State Urban Forestry Programs Outputs/Outcomes *(Unique IN statewide assessment to give you a local perspective)*

See CUF SUSI (Indiana Sample Urban Statewide Inventory) & Indiana Canopy Project, Publications


State Urban Forestry Program Assessments *(Academic assessments of state programs)*


National perspectives on urban forestry (read both items for general overview only)

Week 6 – Municipal Urban Forestry & Tree Law - Tree ordinances/boards/planning; Urban forest disturbance planning; Institutions “governing” urban trees; Tree law talk - Scott Breen

Reading Assignments:
Municipal Urban Forestry (see Municipal Forestry Folder)
Four Phases of an UCF Program, 1p. Four Phases of an U&CF Program

National Arbor Day Foundation. 2007. Sample City Tree Ordinance. 1p. Sample Ordinance


Orndorff, R. 2005. Master Street Tree Plan. City of Rockville Md. 1p. Master Street Tree Plan for City of Rockville, MD (note: compare to B’ton Street Tree Plan Draft 4 for class discussion)


Hauer, R. J., et. al. 2006. Tree and Ice Storms: The Development of Ice Storm-Resistant Urban Tree Populations, Second Edition. Joint Publication 06-1, College of Natural Resources, University of Wisconsin-Steven-Point, and the Dept. of Natural Resources and Environmental Sciences and the Office of Continuing Education, University of Illinois at Urban-Champaign, 20p. TreesIceStorms2ed – optional reading – we will address during Tree Biology in Week 11

Trees and the Law (Review prior to Scott Breen presentation – See Tree Law Folder)


Lewis, M. ‘Arborcide’ and 4 other nasty tree fights. MSN Real Estate, 5p. Arborcide and 4 other nasty tree fights


Week 7 – Tree Planting &/or Canopy Cover Campaigns (Survey of selected regional/city greening initiatives); NGO's – tree planting & otherwise; Keep Indianapolis Beautiful (KIB) presentation – Nate Faris & Molly Wilson, review http://www.kibi.org/programs/overview/, click on Planting Trees & Youth Programming

Reading Assignments:


A listing of some websites to checkout for getting an idea of how urban greening initiatives are progressing around the USA – this is merely a sample and optional listing.
- The Urban Ecology Collaborative http://www.urbanecologycollaborative.org/uec/
- Chicago Wilderness http://www.chicagowilderness.org/index.cfm
- Sacramento Tree Foundation http://www.sactree.com/
- Trees Atlanta http://www.treesatlanta.org/
- Greening of Detroit http://www.greeningofdetroit.com/
- The Mile High Million (Denver) http://www.milehighmillion.org/
- Tree People, Los Angeles http://www.treepople.org/
- Forest Releaf of Missouri http://www.moreleaf.org/
- Friends of Grand Rapids Parks, Grand Rapids MI http://www.friendsofgrparks.org/
- Trees Inc, Terre Haute IN http://www.treesinc.org/
- American Forests http://www.americanforests.org/our-programs/urbanforests/

Discussion Paper #3
The assignment is to conduct a brief SWOT (Strengths, Weakness, Opportunities and Threats; Google SWOT for references and helpful aids, if you are unaware of this analysis technique) analysis of city or regional tree planting or tree canopy campaign. You will select a location of your choice (KIB is not allowed!) and do an on-line review and analysis of the campaign. The discussion paper, 4 page maximum, should clearly describe the initiative and its purposes, the key stakeholders, etc., and then you will construct a brief SWOT to analyze the campaign, not the whole organization conducting the campaign. Finally, you should end the paper with a succinct prediction on the possible success of the initiative. Due date is Tuesday, Feb 24, 40 pts

Week 8 – Midterm Exam Week. Catch-up day on Tuesday and Exam on Thursday

Week 9 & 10 Tree Inventory and Assessment – field trip for class exercise; Guest lecture by Erin Flint on Davey Resource Group TreeKeeper software.
Spring Break – March 16-20!!!!!!

Reading Assignments - See Week 9 & 10 folder for handouts, etc., for field exercise, etc.


See Oncourse resources – i-Tree and Tree Inventory Folder for tree inventory insights

See Oncourse resources - IU-B Campus Folder for campus tree management insights

Tree Campus USA – http://www.arborday.org/index.cfm click Tree Campus USA


Discussion Paper #4 To Be Discussed. Possibly Changed Further!
Undergraduate Student Assignment Only – 3-4 person teams. The IUB Campus Master Plan states that for the core campus (South and west of SR 45/46 Bypass) only 20% of the land is covered by tree canopy. The first Campus Landscape and Open Space Recommendation is to “Increase the tree (canopy) cover from 20% to 40% on campus…” (p. 140). Following this are nine additional recommendations that provide additional direction. Then, on page 141 there is a visual presentation of the existing and proposed tree canopy cover. The team’s task in this small project is 3-fold. First, sort out and describe some key challenges to doubling the existing tree canopy given the other key goals of the Master Plan. Remember, this is much more than an attempt to “sustain” the campus canopy cover; rather the goal is to double it. Second, develop a brief methodology and then implement it to estimate the number of trees to be annually planted and the approximate timeline to achieve an approximate 40% tree canopy cover. Finally, identify and briefly describe possible, important threats to this timeline based upon other goals of the master plan. This discussion paper has a 10 page maximum with additional pages allowed for figures, tables, etc. Due start of class Thursday, April 2, 50 pts.

Weeks 11 – Introduction to Tree Biology (Understanding basic tree biology); Guest Lecture Robert Neary, KIB Geographer

Reading Assignments:

USDA. 2006. How a Tree Grows. FS-32, 8p. How a Tree Grows, USFS pub

Case Study [Review before PowerPoint lecture in class]

Week 12 - Tree Care and Management – Pruning, risk rating, etc.; Urban tree health management; EAB and other pest case studies

Reading Assignments:
Pruning (Major management activity by city foresters)
ISA. 2006. Urban Forestry Tree Care Myths, 2p. *Urban forestry tree care myths*


Emerald Ash Borer, etc. *(EAB will be our thematic pest species for urban forest health mgmt.)*
See EAB Research [http://www.emeraldashborer.info/research.cfm#sthash.lhxprHYO.dpbs](http://www.emeraldashborer.info/research.cfm#sthash.lhxprHYO.dpbs)
See Indiana EAB [http://extension.entm.purdue.edu/EAB/](http://extension.entm.purdue.edu/EAB/)


**Weeks 13 - Tree Planting** – Tree selection (including invasive spp.); Diversity, rules-of-thumb; Right Tree, Right Place; Planting & care demonstrations (field trip), B'ton City Forester Lee Huss

**Reading Assignments:**
See - Bloomington Folder for Bloomington Urban Forestry


**Week 14 - Tree Industry Review** - Economic impacts, job opportunities; Field Day with Davey Tree Expert Company/Davey Resource Group – Mark Noark, Aren Flint, etc.

**Reading Assignments:**


**Week 15 – Graduate Research Paper Presentations, Team Case Study Presentation(s), Course closure & Course/Instructor evaluation; Final Exam for UG’s, Graduate Research Papers Submitted**