

FNRM 4501/5501
**Urban Forest Management: Managing Greenspaces for People
Spring Semester, 2018**

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Contacting each other: The official University of Minnesota form of impersonal communication – email.

Time and Room: Mondays and Wednesdays, 2-3:15 p.m., Green Hall 19.

Required Assignments:

	<u>Unit Points</u>	<u>Total Points</u>
Attendance (% of classes attended)	29 classes	100
Critiques (4)	25	100
Experiential Learning Project:		
Protecting Our Investments	650	650
Asset Management Plan		
Group-led Class Discussion	100	100
“Tree Board” Meeting and Report	50	50
Total Points		1,000 points

Grading:

Urban Forest Management Grading Scale:

A = 900-1,000 B = 825-890 C = 750-800 D = 650-725 F = <650

University Grading Standards:

- A Achievement that is outstanding relative to the level necessary to meet course requirements.
- B Achievement that is significantly above the level necessary to meet course requirements.
- C Achievement that meets the course requirements in every respect.
- D Achievement that is worthy of credit even though it fails to meet fully the course requirements.
- S Achievement that is satisfactory, which is equivalent to a C- or better.

- F (or N) Represents failure (or no credit) and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an Incomplete..
- I (Incomplete) Assigned at the discretion of the instructor when, due to extraordinary circumstances, e.g., hospitalization, a student is prevented from completing the work of the course on time. Requires a written agreement between instructor and student.

Academic Dishonesty

Academic dishonesty in any portion of the academic work for a course shall be grounds for awarding a grade of F or N for the entire course.

Credits and Workload Expectations

For undergraduate courses, one credit is defined as equivalent to an average of three hours of learning effort per week outside of the classroom (over a full semester) necessary for an average student to achieve an average grade in the course. For example, a student taking a three-credit course that meets for three hours a week should expect to spend an additional nine hours a week on coursework outside the classroom.

Course Outline

A COMPLETE LIST OF PAST COURSE PROJECTS MAY BE FOUND ON: www.urbangreenforpeople.com, the official website for urban greenspace management.

Date:	Topic
1/17	Introduction to Urban Forestry: How does urban greenery affect people? <i>Before class, read “Healthy Trees, Healthy People. Needs Assessment Survey Findings Report. 2013. Portland State University.</i>
1/22	Meet your client for the Resilient Communities Project (RCP). Our host community is Ramsey, MN. <i>Prior to the meeting, completely review the RCP document “Protecting Our Investments Asset Management Plan, and “A Statistical Method for the Accurate and Rapid Sampling of Urban Street Tree Populations” by Jaenson et al, 1992. file:///C:/Users/johns054/Downloads/p0171-0183%20(4).pdf</i>

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Review of Experiential Learning Project, assignment of task teams, selection of task team leaders, clarification and details of deliverables and project timelines.

Guidelines for Selecting a Team Leader [2.1.7.g]

The implementer/team leader needs to be a person who understands the goals and can coordinate the plan. This person should have authority, or access to those in authority, in order to build internal support and secure necessary approvals.

The team leader should have the knowledge, skills and abilities to be responsible for:

Developing and overseeing the action plan;

Providing support to team members;

Communicating the plan's objectives and tasks;

Monitoring resources; and

Communicating to those not involved in the action plan, such as authorities and key influencers.

The project manager or team leader's task is to help keep the focus on the goals of the project. [How to Manage A Project](#) lists specific tasks assigned to the project manager.

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Effects of greenspaces on people: recreation, business, property values and ecological assets. Benefits of Urban Trees: "Money Does Grow On Trees," by Jill Johnson. pptx. (in class).

Before Class, read: Midwest Community Tree Guide,

http://www.fs.fed.us/psw/publications/documents/psw_gtr199/psw_gtr199.pdf.

You Tube video "Economic benefits of urban trees is worth billions:

<http://www.bing.com/videos/search?q=you+tube+on+benefits+of+urban+trees&qpv=you+tube+on+benefits+of+urban+trees&FORM=VDRE#view=detail&mid=8DFE6CC694AB9FE8CC118DFE6CC694AB9FE8CC11>.

Beyond Planting: An Urban Forestry Primer. In:

<http://scenariojournal.com/journal/issue-4/>.

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Critique No. 1: Urban Greenspaces and Social Equity. Due February 7. See Appendix A.

Resident preferences for urban greenspaces. <http://joa.isa-arbor.com/request.asp?JournalID=1&ArticleID=122&Type=2>.

Urban Forests as Landscape Artifacts. In:

<http://scenariojournal.com/journal/issue-4/>



Student-led Discussion Session One on urban greenspaces and social equity. See Appendix C.

- 2/05 **A changing climate and changing community health.**
- “Health Impacts of Saint Paul’s Emerald Ash Borer Management Plan”
<https://www.pca.state.mn.us/sites/default/files/tdr-fg14-01.pdf>
 Visiting lecturer.
- 2/07 **Critique Number One due today by 1:00 p.m. Electronic submission preferred.**
- Group work on the Experiential Learning project. By this class period, you should have the plat/street maps from the City of Ramsey so you can begin stratifying the community by land-use type and preparing for the presample trip/s.
- 2/12 Putting tree canopy in perspective. Where is it most important? Where is it most prevalent? How can the two ends get closer together?
 The value of urban tree cover:
http://www.nrs.fs.fed.us/pubs/jrnl/2010/nrs_2010_sander_001.pdf
 Monitoring and assessment of urban forests and trees.
<http://www.nrs.fs.fed.us/urban/monitoring/>.
 How many trees are enough? Tree death and the urban canopy. In:
<http://scenariojournal.com/journal/issue-4/>
- TREE BOARD MEETING announcement and details due no later than today in class.**
- 2/14 **Critique No. 2: Urban greenspace management and the impacts on stormwater run-off management. DUE FEBRUARY 21, 1:00 P.M**
- Engaging citizens in community decision-making and management of greenspaces. Read: Motivations and Task Preferences of Urban Forestry Volunteers. <file:///C:/Users/johns054/Downloads/p0116-0130.pdf>.
- Guest lecturer on training community urban forestry volunteers.
- 2/19 Risk assessment in a public setting. Webinar: Urban Tree Risk and Disasters: Assessment, Planning and Recovery.
<http://www.forestrywebinars.net/webinars/urban-tree-risk-and-disasters-assessment-planning-and-recovery>.
 Issues of liability. <http://www.myminnesotawoods.umn.edu/wp-content/uploads/2014/06/MNLawTrees-TreeLawCoverSheet.pdf>.
- 2/21 Community “Preparedness”: Minimizing the impacts of tree risks, storm damage and introduced invasive pests. .
 A printed research article on sidewalk repair and tree loss will be provided. “The Influence of Sidewalk Replacement on Urban Street Tree Growth.”

Critique Number Two Due Today at 1:00 p.m.

(February 21 agenda continued on next page)



Student Group-led Discussion Number Two on preparing communities for a changing climates.

- 2/26 **Experiential Learning Project group work day: writing the training curriculum and finalizing the sampling maps.**
- 2/28 **Impacts of invasive species on urban forests and urban forestry.**
“Alien Invaders: Non-indigenous species in urban forests.”
<http://www.cfs.nrcan.gc.ca/pubwarehouse/pdfs/29498.pdf>
- Each group brings one article on one invasive pest that is affecting urban greenspace health in the Upper Midwest and briefly discuss it (5 minutes per group). Some demonstrations on various invasive species present in Minnesota’s urban forests and the damage they inflict will be reviewed.
- 3/05 **Group work on community project during class period. Vehicle available to visit project site if requested by 2/28/18, 3:30 p.m.**
- 3/07 **Mid-point projects’ check-ups. Short group presentations on status to clients. Reports should include status of the weighted and stratified sampling protocol, the training curriculum and proposed training schedule.**
- 3/12-14 Spring Break.
- 3/13 and 14 **Minnesota Shade Tree Short Course. Student Scholarships available.**
- 3/19 **Critique Number Three. Citizen Engagement and Community Capacity. DUE MARCH 26, 2018 AT 1:00 P.M.**
- Green Vs. Gray infrastructure conflicts. Preserving mature trees. Relative tolerance of trees to urbanization and development..
<http://www.marshalltrees.com/education/relative-tolerance-of-tree-species-to-construction-damage/>.
- 3/21 Tree City USA conditions. Citizen Advisory Groups and engaging the public. Pros and cons of other opinions and public involvement.
<http://www.arboday.org/programs/treeCityUSA/index.cfm>.
Tree Campus USA. <http://www.arboday.org/programs/treeCampusUSA/>.
Tree Line USA. <http://www.arboday.org/programs/treeLineUSA/>.

- 3/26 **Critique Number Three Due by 1:00 p.m.**
 “Citizen scientists and volunteer accuracy through better training. Data Quality in Citizen Science Urban Tree Inventories”, by Roman et al. 2017. https://www.fs.fed.us/nrs/pubs/jrnl/2017/nrs_2017_roman_001.pdf
- ☆ **Student Group-led Discussion Number Three on volunteer training programs and data “accuracy.”**
- 3/29 **In-class practice for volunteer training workshops and curriculum guide.**
- 4/2 Street tree maintenance: optimum stocking levels, optimum diversity, planting programs.
 “Optimum Stocking of Urban Trees.”
<file:///C:/Users/johns054/Downloads/p0064-0068.pdf>
- “Genetic Diversity Low in Pittsburgh’s Urban Forest.”
<https://actreesnews.org/alliance-for-community-trees-news/genetic-diversity-low-pittsburghs-urban-forest/>
- 4/4 Water management in urban greenspaces: water quality and quantity; designing water-conservative landscapes and runoff capturing gardens.
 “Urban Bioswales.” <https://hixon.yale.edu/practice/bioswales>
- 4/9 **Critique No 4: Technology and the ability to manage urban greenspaces smarter, more efficiently and more effectively. DUE APRIL 16, 2018 BY 1:00 P.M.**
 “Tree Root System Characterization...” <http://www.mdpi.com/1999-4907/5/12/3274/htm>
- Guest lecturer on technology and urban forest health management.
- 4/11 **Group Work Day.**
- 4/16 Greenspace health issues: invasive introduced species: who is responsible? Policies, ethical practices, ordinances?
 Supplemental reading: <http://www.invasive.org/>.

4/18 Greenspace health issues:
Climate impacts in the Midwest.
<https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-midwest.html>

Impacts of urban heat islands. “The causes and effects of the urban heat island effect.” <http://thegreencity.com/the-causes-and-effects-of-the-urban-heat-island-effect/>



Student Group-led Discussion Number Four on urban greenspaces and the moderation of urban heat island effects.

April 22, 2018 EARTH DAY. <http://www.earthday.org/earth-day-history-movement>.

4/23 Principles of street tree design. Supplemental reading:
http://www.mymnnesotawoods.umn.edu/wp-content/uploads/2008/12/Street-Tree-Manual.REVISED_20082.pdf

TREE BOARD MEETING REPORT DUE NO LATER THAN TODAY IN CLASS.

4/25 In-class presentation of the Ramsey, MN project; reports and adjustments. Necessary adjustments to presentation and formal reports. Bring up problems and issues, solve problems and issues.

4/27 *Arbor Day in Minnesota.* <http://www.arborday.org/arborday/history.cfm>.
Tree City USA.
<http://www.arborday.org/programs/treeCityUSA/index.cfm>.

4/30 Costs and Benefits of community reforestation programs: a world-wide perspective.

“Trees and forest effects on air quality and human health in the United States.”

https://www.fs.fed.us/nrs/pubs/jrnl/2014/nrs_2014_nowak_001.pdf

“Urban Forestry in China.”

http://www.fao.org/uploads/media/Urban%20Forestry%20in%20China_status%20and%20prospects.pdf

“Urban Forestry in Mexico City.”

<http://www.fao.org/docrep/u9300e/u9300e06.htm>

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Final report/presentation to the Ramsey, MN clients. This will take place on the Saint Paul campus, Green Hall..

APPENDICES

Appendix A: Critique Assignments.

All critiques are written assignments. Review the reading assignments before class. Write a critique on the topic and the assigned readings (I don't care which side of the fence you are standing), and be prepared to discuss and summarize the main topics, any bias found in the readings, points for future research. An example of a critique will be given in class. These are writing assignments. Correct grammar and spelling, sentence structure and references are required for an acceptable paper for credit.

All critiques are due one week after the assignment date in the syllabus, by 1:00 p.m. No critiques will be accepted after that date and time.

ARTICLES FOR EACH CRITIQUE ASSIGNMENT WILL BE PROVIDED DURING THE SEMESTER ON THE ASSIGNED DATES IN THE SYLLABUS.

No. 1: Urban greenspaces and social equity. DUE FEBRUARY 7, 2018.

There are many challenges and conflicts with infrastructure (both biotic and abiotic) in an urban environment. Urban forests provide many benefits including economic and social benefits, but it's not just a matter of inserting trees into sidewalks or near store fronts. Not everyone in a community equally benefits from urban greenspaces, and often the ones who could benefit the most are the ones least accommodated. There is no minimum or maximum length of this critique. However, it should be complete enough to demonstrate your knowledge of each research study and ability to lead a discussion of it.

No. 2: Urban greenspace management and the impacts on stormwater run-off management. DUE FEBRUARY 21, 2018 BY 1:00 P.M.

At the heart of many community environmental issues is the thing that most Minnesotans take for granted...water. Water quality, water quantity, stormwater runoff management. After reviewing these research-based and popular articles on stormwater management, please develop an academic yet pragmatic critique.

No. 3: Citizen engagement and a community's capacity to sustainably manage their urban greenspaces. DUE MARCH 26, 2018 BY 1:00 P.M.

Volunteers, citizen scientists, community activists, tree boards, squeaky wheels, retired people with too much time on their hands. These are all names or descriptive

phrases that have been assigned by different community managers to citizens wanting to help manage their community's urban landscape. Review these articles and assess the potential for increasing a community's capacity to manage their urban forests by engaging those "squeaky wheels."

No. 4: Technology and the ability to manage urban greenspaces smarter, more efficiently and more effectively. DUE APRIL 16, 2018 BY 1:00 P.M.

Urban greenspaces are intended to add to the quality of life for the residents and visitors to the area. Therefore, managing the resources to be physiologically healthy and safe are critical. These articles address some the real and emerging technologies that hold the promise of improving those benefits to a community and those who live there.

Appendix B: Experiential Learning Project: "Protecting Our Investments Asset Management Plan."

See attached "Protecting Our Investments Asset Management Plan, University of Minnesota – City of Ramsey, Scope of Work Assignment, #RCP 2017 – 1b.

Evaluation of Project Deliverables

1. Written product of final report (group grade, 20% of total points).
2. Delivery of interim and final presentations to the clients (group grade):
 - a. Creation of Power Point presentations (10% of total points).
 - b. Delivery of update and final presentations to community at the assigned meeting dates (15% of total points).
3. Volunteer Training, group grade, 35% of total points, divided as follows:
 - a. Curriculum Design, Training Manual and web folder (15%)
 - b. Delivery of Training Workshops and Technical Assistance (20%).
3. Peer evaluation (10% of total points).
4. Timeline due dates met (10% of total points).

Timeline: Dates listed are the deadlines. It's smart to get ahead of them, though.

1. Acquisition of electronic maps from City of Ramsey. **By February 7.**
2. Stratification of City of Ramsey political boundaries by land-use type. **By February 14.**
3. Acquisition of potential volunteer lists and contacts from City of Ramsey and Anoka County Master Gardener Program. Volunteer preferences given to residents of Ramsey. **By February 14.**
4. Presampling of land-use types. **By February 26.**
5. Determination of most common 20 trees in public spaces in City of Ramsey. **By February 26.**
6. Weighting of final survey sampled trees by land-use type. **By February 28.**
7. **March 7.** Status report to community: 5 ppt slides plus beginning and ending slides and printed summary.

8. Development of training curriculum including training timeline. **By March 19.**
9. Advertisement to potential volunteers and determination of training dates/times. **By March 19.**
10. First draft of report: Introduction, including review of the issue assessment, description of community and the known urban forest, literature review of survey and inventory techniques, volunteer recruitment, motivation and retention. **By April 2.**
11. Second draft of report with revisions from first draft, plus methods section and results section. **By April 9.**
12. Set up dedicated community-based folder on www.mntreesource.com for City of Ramsey. This will include training manual and references for tree identification, how to complete survey forms, and a point where volunteers can submit comments on progress. **By April 9.**
13. Completion of training workshops and development of all reference materials. **By April 18.**
14. Third draft of report with revised introduction, methods and results section, plus recommendations and discussion. **By April 25.**
15. Documented minimum of two on-site visits to provide technical assistance to volunteers conducting the surveys. **By April 25.**
16. Final draft of report, all revisions, plus Table of Contents, Executive Summary, Acknowledgements, Appendices. **By April 30.**
17. **May 2.** Final PowerPoint for community presentation.

Appendix C: Group-led class discussions. Look for the Stars!

Each student group will lead one class discussion period. In other words, each group will “teach,” “direct,” “engage” the class on the topic that they have “selected” on an assigned date. The topic will be determined during the first class period when each student group randomly draws a coded paper that includes the assigned topic which corresponds to the syllabus date for said topic.

One week prior to the assigned discussion period, the student group will email the class a reading assignment consisting of a minimum of three articles, publications, videos or Power Points to review before the class. The student group then leads the class in a discussion of the topic via Power Point/Prezi, interactive games or exercises, hands-on experiments, tours or however the student chooses to direct a discussion of the subject. The key to the success of the class is discussion, so don’t think you need to stand in front and talk for the entire length of the class. **The student group-led class discussion is limited to 45 minutes in length.**

Your grade is based on: sending out the references one week ahead of time (20% of grade), the quality of the references (25% of grade)...no blogs, no “my opinion dot com,” no social media of any sorts, and the content, intent and delivery of the discussion

(55% of the grade). You will not be graded for fluency of speech or anything other than content, intent and delivery. Just so you understand what delivery is, it's the quality of the PowerPoint if you use that, or the organization of any activities, the use of props or examples, and any other types of media supplements, such as videos as well as effective use of the 45 minutes provided for the discussion..

Appendix D: Tree Board Meeting and Report.

In a local community that has a tree board/task force or an environmental committee or an environmental advisory commission, attend a scheduled meeting. Print off their monthly or quarterly meeting schedule and submit to the course instructor no later than February 12, 2018 (that amounts to 10 of the assignment points). Beautification committees are also acceptable. Attend the meeting, take “minutes” and write a report on the actions of the committee during that meeting. In this report, also explain the responsibilities of the board/committee, how often they meet and the make-up of the board. Due by April 23, 2018.

Meetings that you have attended before this taking this course do not count.