Fall 2016 Syllabus
LARC 4302/5302 - Environmental Planning for Sustainable Development, 3 Credits
[Mondays & Wednesdays, 3:00-4:20, Bayer Plant Science 109]

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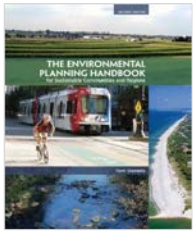
Course Description
This course introduces environmental planning issues with emphasis on the integration of related disciplines to attain environmentally and socially sustainable development. By examining fundamental concepts and environmental challenges in the context of planning, this course focuses on the planning aspects of environmental and natural resources including water, air, energy, green spaces, preservation areas, agriculture, and biodiversity, while reviewing the effective and sustainable strategies for management and planning of our urban and natural environments. This course also provides an understanding of applied ecological sciences as related to planning principles and practices, especially in the fields of landscape and urban ecology. Various approaches in environmental planning are reviewed to address numerous environmental challenges and pressures placed upon our cities and regions. In addition, the ways of promoting ecosystem services correlated with a various levels of human activities are also addressed. This course discusses environmental conflicts associated with environmental justice and ethical issues. Some best practices and case study examples of long-term management of urban environment and sustainable community are studied. Finally, global environmental issues such as climate change and trans-boundary environmental problems are examined, along with innovative planning ideas and tools that help envision sustainable environment for the future.

Course Purpose and Student Learning Outcomes
Upon course completion, students should be able to:

- Understand current and emerging environmental issues at multiple scales.
- Characterize the concerns, magnitude, and pace of environmental change, and their implications for planning at various spatial levels.
- Understand appropriate research methodologies and apply them to inform a dynamic analysis/planning processes.
- Integrate systematic and/or process-driven analyses into the planning decisions.
- Develop planning and management solutions that are thoughtful, innovative and dynamic.
- Promote environmental stewardship and social responsibility.
- Demonstrate the ability to work collaboratively towards an interdisciplinary end goal.

Textbooks and Supplies



The Environmental Planning Handbook for Sustainable Communities and Regions by Tom Daniels (2nd Edition; September 7, 2014), APA Planners Press, ISBN-13: 978-1611901511

Additional readings and handouts will be available on Blackboard or distributed in class as part of the course materials. Films and short videos relevant to weekly topics will be screened in class. Supplemental reading list is on page 4 of this syllabus.

Course Requirements

Attendance: Regular, punctual, prepared attendance is required. Three undocumented, unexcused absences will result in removal from the course. Students who arrive more than 10 minutes late will be considered absent but will be allowed to stay and participate in class.

Course Requirement (cont'd)

Participation: Students are required to actively participate in class discussion and field trips.

Quizzes: Quizzes will be a brief assessment of weekly lectures and readings. Three quizzes will be taken out of which two best scores will count toward grade.

Test: Mid-term exam will be taken to assess the knowledge obtained through the first half of the course and comprehensive final exam will cover all the contents of weekly lectures, readings, discussions, and guest lectures.

Class exercises: An elevated level of energy, involvement, and thinking skill is required for all class activities and related assignments.

Projects & Final Paper

Project Option (1)
This semester-long class project is designed as a team-based research project focusing on the exploration of the potential solutions for current and emerging environmental challenges. Lubbock and/or surrounding areas will serve as the laboratory for the exploration. A team is comprised of 3 individuals and will work together throughout the semester for a research project based on their shared interests. Each group should select a substantive topic of interest in their study area, and prepare a written paper and a PowerPoint presentation. The project needs to address three main components; 1) current situations and problems identified for the chosen priority issues (Due Sep. 12th), 2) analysis and assessment of the chosen topic based on available plan documents (e.g. general plans, comprehensive plans, land use plans, conservation plans, etc.), spatial and/or non-spatial datasets, statistics, and any relevant information (Due Oct. 12th), and 3) suggest planning/policy ideas and strategies to respond to the priority subject that can help solve the challenges (Due Nov. 9th). Detailed descriptions, due dates, submission guidelines, and evaluation rubrics will be distributed as a separate sheet in class.

Project Option (2)*
This semester-long class project is designed as a team-based grant proposal development process that focuses on the EPA's People, Prosperity and the Planet (P3) Student Design Competition program. Interested students should review the program overview, select a topic of interest, form an interdisciplinary team comprised of undergraduate and/or graduate students, and conduct an independent study under the supervision of the instructor and write a proposal to submit applications by the two weeks before the solicitation closing date (TBD, December 2016). The application should include problem definition, innovation and technical merit, connections to sustainability in terms of people, prosperity and the planet, measurable results, evaluation method, implementation strategy, and integration of the P3 Award competition as an educational too. Detailed project development schedules and interim deadlines for project progress should be consulted with the instructor. Refer to the EPA P3 website for learning more about the program, application procedures, past teams by year, success stories, and more: *https://www.epa.gov/P3*.

**This option is available for 10 pt. extra credits.*

Project/Assignment Submittals
To receive course credit all submittals and process works required must be in a PDF or MP4 format, under 20 MB, named as illustrated. This requirement streamlines the workflow for student submittals, course grading and archival processes for assessment and accreditation while creating a digital archive for portfolio creation.

Digital submittals must follow naming conventions and file sizes to be considered for a grade.
LARC####_Project/Assignment#_MMDDYYYY_FirstNameLastName.pdf e.g. **LARC4302_Project1_10062016_FredOlmsted.pdf**
LARC####_Project/Assignment#_MMDDYYYY_FirstNameLastName.mp4 e.g. **LARC5302_FinalVideo_10062016_FredOlmsted.mp4**

- PDF files shall not exceed 20 MB to be considered for a grade unless otherwise specified in the assignment project statement. *If a PDF exceeds this size, open the PDF in Adobe Acrobat Pro and choose File>Save as Other>Reduced Size PDF which will drastically reduce the file size. Consult with faculty if quality or size is an issue.*

Grading
Grading will be based upon cumulative performance on assignments, in-class exercises, examinations, papers, presentations and class participation. Final course grades will be calculated based on the following distribution.

Attendance & Class Participation	10%
Three quizzes (Drop the lowest)	10%
Mid-term Exam	20%
Class Exercises & Assignments	10%
Final Exam (Comprehensive)	20%
Project presentation & paper	30%

NOTE: All submittals must be submitted digitally as stated above to receive course credit.

Attendance and Late Work Policy
http://www.depts.ttu.edu/opmanual/op34.04.pdf
Would you go to a client meeting without a product? Or, not show up for a client meeting? Regular, punctual, prepared attendance is required. Three undocumented, unexcused absences will result in removal from the course. Late work will be accepted for 3 days following a deadline or unexcused absence with a one letter grade per day reduction. Submittals will not be accepted after the 3rd day.

Accommodation Statement
http://www.depts.ttu.edu/opmanual/OP34.22.pdf
Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor's office hours. Please note: instructors are not allowed to provide classroom
accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, please contact Student Disability Services in 335 West Hall or call 806.742.2405.

Religious Holy Days
https://www.depts.ttu.edu/opmanual/OP34.19.pdf
Texas law requires institutions of higher education to excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day. The student shall also be excused for time necessary to travel.
An institution may not penalize the student for the absence and allows for the student to take an exam or complete an assignment from which the student is excused. While no prior notification of the instructor is required, OP 34.19 indicates that a student who intends to observe a religious holy day should make that intention known to the instructor prior to the absence. The student should make up any missed work.

Academic and Professional Integrity
http://www.depts.ttu.edu/officialpublications/catalog/_ethical_principles.php
http://www.depts.ttu.edu/dos/handbook/community.php#integrity
Academic integrity is taking responsibility for one's own class and/or course work, being individually accountable, and demonstrating intellectual honesty and ethical behavior. Academic integrity is a personal choice to abide by the standards of intellectual honesty and responsibility. Because education is a shared effort to achieve learning through the exchange of ideas, students, faculty, and staff have the collective responsibility to build mutual trust and respect. Ethical behavior and independent thought are essential for the highest level of academic achievement, which then must be measured. Academic achievement includes scholarship, teaching, and learning, all of which are shared endeavors. Grades are a device used to quantify the successful accumulation of knowledge through learning. Adhering to the standards of academic integrity ensures grades are earned honestly. Academic integrity is the foundation upon which students, faculty, and staff build their educational and professional careers.

In addition, Landscape Architecture is a professional licensed discipline obligated to protect the public health, safety and welfare. To guide our profession, the American Society of Landscape Architects (ASLA) has established a Code of Professional Ethics which we will uphold in our department. We will also approach our work with a stewardship and ecological ethic defined in the ASLA Declaration on the Environment and Development.

Citation

All works must be properly cited to avoid questions of plagiarism and theft of creative work. To assist in this the process, the LA Department Style Guide for Citation will be disseminated for your use. Work not properly cited will be considered violations of academic integrity and reported as such per the policies stated above.

Cell Phones and Technology

As a matter of professionalism and courtesy, please turn off cell phones and other communication and entertainment devices prior to the beginning of class. Notify instructor in advance if you are monitoring an emergency, for which cell phone ringers should be switched to vibrate. As we are a professional program, treat class time just as you would daily work time on a client's budget in regard to temptations such as Facebook or movies.

Supplemental Reading List

- Ahern, Jack. 2011. From fail-safe to safe-to-fail: Sustainability and resilience in the new urban world. Landscape and Urban Planning 100:341-343.
- Barbour, Elisa, and Elizabeth A. Deakin. 2012. Smart growth planning for climate protection: evaluating California's Senate Bill 375. Journal of the American Planning Association 78(1):70-86.
- Bedsworth, Louise, and Ellen Hanak. 2010. Adaptation to climate change. Journal of the American Planning Association 76(4):477-495.
- Chappells, Heather, and Will Medd. 2012. Resilience in practice: the 2006 drought in Southeast England. Society and Natural Resources 25:302-316.
- Clapp, Roger Alex, and Cecelia Mortenson. 2011. Adversarial science: Conflict resolution and scientific review in British Columbia's central coast. Society and Natural Resources 24:902-916.
- Compas, Eric. 2012. "Retooling" for the new West: environmental NGOs, planning, and governance regimes. Society and Natural Resources 25(9):883-899.
- Edinger, G., D. Evans, S. Gebauer, T. Howard, D. Hunt and A. Olivero. 2002. Ecological Communities of New York State. New York Natural Heritage Program. Albany, NY.
- Gallo, John, and Michael Goodchild. 2012. Mapping uncertainty in conservation assessment as a means toward improved conservation planning and implementation. Society and Natural Resources 25(1):22-36.
- Kennen and Kirkwood. 2015. Phytoremediation. Routledge.
- Knoot, Tricia G., Lisa A. Schulte, and Mark Rickenbach. 2010. Oak conservation and restoration on private forestlands: Negotiating a social-ecological landscape. Environmental Management 45:155-164.
- Lewis, Paul G., and Mark Baldassare. 2010. The complexity of public attitudes toward compact development. Journal of the American Planning Association 76(2):219-237.
- McDonald, Robert. 2015. Conservation for Cities: How to Plan & Build Natural Infrastructure. Island Press.
- McHarg, I. and F. Steiner. 1998. To heal the earth. Island Press. Washington, D.C.
- Musacchio, Laura R. and Wu, Jianguo. 2004. Collaborative landscape-scale ecological research: Emerging trends in urban and regional ecology. Urban Ecosystems 7, 175-178.
- Perlman, Dan. L and Jeffrey C. Milder. 2005. Practical Ecology for planners, develops and citizens. Washington, DC, Island Press.
- Randolph, John. 2003. Environmental Land Use Planning and Management. Island Press. Washington, D.C.
- Shafer, C. Scott, Lee, Bong K., Turner, Shawn. 2000. A tale of three greenway trails: user perceptions related to quality of life. Landscape and Urban Planning 49, 163-178.
- Shearer, A. W., D. A. Mouat, S. D. Bassett, M. W. Binford, C. W. Johnson, And J. A. Saarinen. 2006. Examining development-related uncertainties for environmental management: Strategic planning scenarios in Southern California. Landscape and Urban Planning 77:359-381.
- Wainger, Lisa, and Marisa Mazzotta. 2011. Realizing the potential of ecosystem services: a framework for relating ecological changes to economic benefits. Environmental Management 48(4):710-733.

SCHEDULE – Course Timeline

Weeks	Dates	Topics	Reading	Due
Week 1	Aug.29	Course Introduction Syllabus overview		
	Aug.31	Introduction to environmental planning	Chp.1 Chp.2	
Week 2	Sep.5	**No Class (Labor Day)**		
	Sep.7	Water quantity & quality	Chp.5 & 6	
Week 3	Sep.12	Guest Lecture: Mr. Adolfo Varela (Environmental Health & Safety)		**Working Paper 1**
	Sep.14	Air quality	Chp.3	
Week 4	Sep.19	Solid waste & recycling	Chp.7	Quiz 1
	Sep.21	Renewable energy & toxic substances	Chp.17 & 8	
Week 5	Sep.26	Natural landscape; urban forest; tragedy of the commons	Chp.9 & 15	
	Sep.28	Landscape and urban ecology Ecological restoration		
Week 6	Oct.3	Wildlife and habitat	Chp.10	
	Oct.5	Wetlands; coastal zone management	Chp.11 & 12	Quiz 2
Week 7	Oct.10	Guest Lecture: Dr. Griffis-Kyle (Natural Resources & Management)		
	Oct.12	**Field Trip**: constructed wetland @ 19th St. & Quaker Ave.		**Working Paper 2**
Week 8	Oct.17	Agriculture; urban farm; food desert Class activities: ecosystem services	Chp.14	
	Oct.19	Greening of the red zone	Chp.13	
Week 9	Oct.24	**Mid-Term Exam**		
	Oct.26	Transportation and environment; road ecology	Chp.18	
Week 10	Oct.31	Greenfield development	Chp.20	
	Nov.2	Urban sprawl; urban model; green cities	Chp.19	Quiz 3
Week 11	Nov.7	Film: The Dust Bowl		Film report
	Nov.9	Sustainable development; carrying capacity; ecological footprints		**Working Paper 3**
Week 12	Nov. 14	Sustainable city and community		
	Nov. 16	Vulnerability & resilience		
Week 13	Nov. 21	Environmental conflicts & justice, ethical planning		
	Nov.23	**No Class (Thanksgiving Holiday)**		
Week 14	Nov. 28	Global environmental issues (climate change, trans-boundary issues)	Chp.4	
	Nov. 30	Environmental planning trends & challenges	Chp.21	
Week 15	Dec.5	**Group Project Presentation I**		
	Dec.7	**Group Project Presentation II**		
Week 16	Dec.12	**Final Exam (Comprehensive) 4:30-7:00 PM**		
	Dec. 14			**Final Paper (by 9:00 AM)**

***NOTE**: The schedule of activities is subject to change. Minor changes will be announced in class, major ones provided in writing.*

Working Paper #1: Project Topic Identification

Option 1 – Regular Research Project

❑ **Due:** Sep. 12th (Digital copy by midnight)

❑ **Objective:** To identify environmental issues addressed for your project topic.

❑ **Task:** Your team has been assigned to scour the internet, newspaper articles, scholarly journals and other documents to discover what the potential environmental issues are. Each team selects a potential topic of interest around which environmental issues are defined, analyzed, and assessed to provide strategic plans to solve them. The potential topics may include but are not limited to air quality, water quality, hazard assessment, alternative energy, parks & open spaces, human health, natural landscapes, watershed, biodiversity, and sustainable built form and environment. Students choose a topic based on team interest/strengths and planning applicability.

❑ **Deliverable:** A 1-2 page abstract with a summary of the topic and a background description of the issue(s) addressed, along with a brief timeline for project procedures and the names and roles of your team members. Information sources should be included. References must be clearly cited using APA style. See the examples of reference lists under the APA Formatting and Style Guide menu on the left pane of the link, https://owl.english.purdue.edu/owl/resource/560/1/

❑ **Grading:** The overall grade for this assignment will be based on the background research into your group project topic and the overall value of references used to identify the issues surrounding your topic. In general, if you clearly articulate a topic and the issue(s) you will receive at least 85 points on this assignment. The last 15 points will be assigned according to how you compare with your peer groups.

Option 2 – EPA P3 Grant Proposal Project

❑ **Due:** Sep. 12th (Digital copy by midnight)

❑ **Objective**: To develop a framework in which the proposed project can be conducted

❑ **Task:** Form an interdisciplinary team and have an inaugural meeting to discuss the project plan. Choose an innovative topic that has technical merits and applicability for increasing environmental sustainability. Justify why the topic you choose is unique and important.

❑ **Deliverable:** A three to five page project narratives including project background (problems identified), project goals (what you would like to achieve through your proposed project), product descriptions (what you would like to create as an end product), project team members (names, affiliation, expertise, roles) and timeline (check sheet for work progress, team meeting plans, etc.). References must be clearly cited using APA style. See the examples of reference lists under the APA Formatting and Style Guide menu on the left pane of the link, https://owl.english.purdue.edu/owl/resource/560/1/

❑ **Grading:** The overall grade for this assignment will be based on the background research into your group project topic and the overall value of references used to identify the issues surrounding your topic. In general, if you clearly articulate a topic and the issue(s) you will receive at least 85 points on this assignment. The last 15 points will be assigned according to how you compare with your peer groups.

Working Paper #2: Data Collection, Survey and Analysis

Option 1 – Regular Research Project

❑ Due: Oct. 12th (Digital copy by midnight)

❑ **Objective:** To understand the topic of interest in more detail based on data analysis and information available and identify what planning measures have been, and could be, developed.

❑ **Task:** You are tasked for collecting available data and information (spatial or aspatial) for the issues of your chosen topic. The process of acquiring data and the methods of analyzing and assessing the issues should be clearly stated. You can utilize existing charts and statistics but also develop your own ways of doing quantitative or qualitative research. Any planning efforts and strategies relating to your topic in the area of interest should be discussed as well. Otherwise, students can describe how viable the planning means identified elsewhere would be applied in your site. Students should consider doing this assignment based on the topic and issue(s) presented in thereby allowing the inclusion of this assignment into your final project presentation and paper.

❑ **Deliverable:** At least five-page document describing the in-depth analysis of your topic. Be as specific as possible. As with prior assignments, please submit one digital copy per group via email or OneDrive. References must be clearly cited using APA style. See the examples of reference lists under the APA Formatting and Style Guide menu on the left pane of the link, https://owl.english.purdue.edu/owl/resource/560/1/

❑ **Grading:** In general, if your document contains a well thought out line of reasoning supported by literature, data, and research methods, you will receive a minimum grade of 85. The last 15 points will be based on how well your group conveys your issues to the reader.

Option 2 – EPA P3 Grant Proposal Project

❑ Due: Oct. 12th (Digital copy by midnight)

❑ **Objective:** To develop a draft-proposal abstract. See the item J. Project Summary section of the P3 Abstract Format here: https://www.epa.gov/sites/production/files/2015-05/documents/p3abstract.pdf

❑ **Task:** Compile information and research findings from each team member and develop narratives for preparing a pre-proposal.

❑ **Deliverable:** At least five-page project narratives and progress report that includes but is not limited to product performance, environmental impacts, and model development. References must be clearly cited using APA style. See the examples of reference lists under the APA Formatting and Style Guide menu on the left pane of the link, https://owl.english.purdue.edu/owl/resource/560/1/

❑ **Grading:** The overall grade for this assignment will be based on the preliminary outputs and incremental progress into your group project and the overall value of references used to identify the issues and research methods.

Working Paper #3: Plan Strategies Development

Option 1 – Regular Research Project

❑ **Due: Nov. 9th** (Digital copy only by midnight)

❑ **Objective:** To seek planning tools and measures proven, or thought, to be effective to solve identified environmental problems. To devise an array of planning goals and objectives, strategies, and implementation/action plans in consistent and coherent manner.

❑ **Task:** Create an environmental plan and strategies which depict a vision for an environmental resource into the future. The plan must contain a spatial manifestation of environmental resources along with written documentation highlighting your analyzed and/or forecasting information. Whenever possible, the analysis should be highlighted in a quantitative and narrative fashion. The plan should clearly articulate a vision for the future, the means to arrive at this future and any potential methods for monitoring the trend into the future.

❑ **Deliverable:** A written plan document that includes planning solutions and strategies to the issues and problems identified in the first working paper. Page limit: 10-15 pages.

❑ **Grading:** The overall grade for this assignment will be derived from how well you develop a series of plans and strategies, how thoroughly the investigation was made, and how innovative the ideas and strategies are in addressing the problems.

Option 2 – EPA P3 Grant Proposal Project

❑ **Due: Nov. 9th** (Digital copy only by midnight)

❑ **Objective:** To develop skills of grant proposal writing, communication, and collaboration.

❑ **Task:** To develop a complete version of P3 Abstract of Application. Carefully read the entire instruction for the P3 Abstract Format here: https://www.epa.gov/sites/production/files/2015-05/documents/p3abstract.pdf.

❑ **Deliverable:** Fill out the required form of the P3 Abstract of Application and submit it along with a progress report that briefly summarizes progress made on the proposed project and any problems or obstacles that have hindered the project's progress.

❑ **Grading:** The overall grade for this assignment will be derived from how well you understand the grant program's requirements, how completely and logically the abstract was written, and how innovative and competitive the proposed project ideas and products are.

Final Paper: Plan Report Development

Option 1 – Regular Research Project

❑ **Due: Dec. 14th** (Digital copy only by midnight)

❑ **Objective:** To construct a plan report representative of an environmental planning issue or composite of issues. To synthesize identified problems, findings from analysis and survey, effective planning tools, visions for the future, goals and objectives, general and specific strategies and implementation/action plans into a written form of plan report.

❑ **Task:** The plan must contain a clear definition of your goals and objectives. A vision for the future should be articulated based on the goals and objectives. Synthesize the contents from working paper 1, 2, and 3 in a creative and analytic way. Maps and graphics must be easily read and clearly identify plan elements. Any information utilized to construct the plan must be clearly defined.

❑ **Deliverable:** Each group should submit a paper that will typically be 20-30 pages double-spaced exclusive of references, maps, photographs and figures. Provide a complete list of references and be sure to cite sources in the paper correctly. Please put all the names of your group on the first page of the paper. It is very important that every team member participates in, and commits to, the group research project.

❑ **Grading:** The written report will be evaluated based on the appropriateness and novelty of your topic, thoroughness and depth of the research employed, applicability of the proposed solutions and suggestions, and completeness and structure of plan report. The overall grade will be determined on how well you relate and integrate all the items described above into a document.

Option 2 – EPA P3 Grant Proposal Project

❑ **Due: Dec. 14th** (RFA is anticipated to open in December 2016)

❑ **Objective:** To develop a sustainability research grant proposal in an interdisciplinary and collaborative manner.

❑ **Task:** Prepare a full set of application materials for EPA's P3 Phase I grant award. Consult with the faculty advisor and co-advisors to get feedback on the proposed project. Work closely with the CASNR's grant specialist to check the required administrative documents including SF 424 and a budget plan. Seek out letters of support, if necessary. Make sure you have all the required materials ready to submit based on the checklist here: https://www.epa.gov/P3/application-overview. Also, make sure to use all necessary forms that are included in the electronic application package here: https://www.epa.gov/research-grants/funding-opportunities-how-apply-and-required-forms.

❑ **Deliverable:** A complete version of grant proposal that includes table of contents, abstract, research plan, references, budget, budget justification, resumes, current and pending support, and letters of intent/letters of support of this solicitation.

❑ **Grading:** The proposed project will be evaluated based on the compliance of the grant proposal requirements, the originality, novelty, creativity, and viability of the proposed project, and efficient teamwork toward the proposal accomplishment.