2016 SYLLABUS: DESIGN STUDIO IV[1]

The University of Texas at Arlington,
Graduate Program in Landscape Architecture
Department of Planning and Landscape Architecture - PALA
College of Architecture, Planning and Public Affairs - CAPPA

LARCH 5664: Environmental Planning (6 credits)   **Spring Semester 2016**

Instructor:	Taner R. Ozdil, Ph.D., ASLA
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	Office Hours: M 3:00pm to 4:00 pm,
	T-Th 5:00pm to 6:00 pm, or by appointment
Graduate Assistant:	Riza Pradhan - Office: Architecture 109, Telephone: (817) 272-7273
Class Time:	T-Th 6:00 pm - 9:50 pm.
Classroom:	Room # 319,& 427 Architecture Building - CAPPA
Prerequisites:	LARC 5663 (Studio III), LARC 5341, or permission of the instructor

I. Course Description

Studio IV is designed to provide the fundamental concepts and mechanisms underlying natural processes, and environmental planning and design. It is structured to appreciate the influence of natural factors on landscape planning and landscape architectural design within the emerging context of sustainability. The course presents a process of solving large scale planning problems through data gathering and information processing techniques commonly used by landscape architects under the broader understanding of nature, ecology, and environment. The course addresses natural biophysical factors and environmental processes as determinants of planning and design within the emerging framework of geodesign. Informed by the founding landscape planning principles of Ian McHarg (1969), Geodesign is design and planning framework that utilize geographic information (specifically GIS) in the making of natural and built environment. The resulting environment is typically a product of sound scientific evidences and processes, and more closely follow natural systems (Steinitz, 2012).

Studio IV expands regional planning and design concepts to the environment as a large scale ecological unit, independent of political boundaries, through the use of geodesign framework and the geographic information system (GIS) technologies. The major theme for the studio is landscape as an expression of natural processes. Primary content focus for the course will be:
  • Introduction to environmental planning (specifically landscape planning),
  • Introduction to geodesign and GIS technologies,
  • Introduction to ecological inventory and analysis methods,
  • Integration of ecological and environmental issues such as floodplain, wetland, biodiversity, wildlife habitats, water and soil quality, storm-water management, erosion control, etc. to land use and landscape planning processes,
  • Synthesizing natural factors and scientific information in order to formulate sustainable, and low impact design solutions,
  • Graphic analysis, representation, and communication of site processes,
  • Continuation/integration of previous studio content to address projects at a complex level.

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[1] Please check with the instructor for additional updates in this syllabus throughout the semester.

II. Measured Outcomes
At the conclusion of this studio, students will be able to:
- Understand the dynamic aspects of natural processes, environmental issues, ecological terms, and ecological principles
- Learn how to systematically collect, analyze, and synthesis environmental data
- Apply the ecological and environmental principles into landscape planning and design
- Learn and effectively use new technologies (primarily GIS, aerial Imagery and remote sensing) in data collection and analysis and landscape planning
- Get familiar with low impact, sustainable planning and design practices
- Learn to work with realistic deadlines and requirements as an individual or in a team environment.

III. Course Expectations and Student Responsibilities:
All students are required to do the following:
- Be adequately prepared to work on ongoing exercises and projects in the studio and for the instructor's desk critiques, as well as for presentations. Students are expected to show measurable progress in their work from one class to the next.
- Participate in class or group discussions actively, and interact with classmates through discussion and work critique in the studio.
- Students will be required to keep a sketchbook/journal for the duration of the class to record insights, impressions, ideas and concepts. It may include class notes, if desired, but should include visual notations: diagrams, rough sketches, inspired doodles, etc.
- Let the instructors know of any suggestions or concerns you have for the class in a timely fashion.
- Attend all classes. Attendance is mandatory as each class builds upon those that precede it, and interaction with other students in the studio is a fundamental dynamic of the course.

IV. Teaching Methods:
Lectures: Lectures relevant to the natural processes, natural processes, environmental planning, landscape ecology, GIS and remote sensing will be given throughout the semester. These lectures are structured to present new content in landscape planning and to demonstrate GIS and remote sensing technologies.

GIS Review: The introductory ArcGIS 10.3 content will be reviewed in the Computer Labs on the third floor. Relevant exercises from the tutorial will be completed in and outside the classroom.

Studio: Like your other studios major part of the LARC 5664 will take place in the studio with project reviews, desk critics, individual consultation, and project presentations.

V. Assignments, Exercises, Presentations & Studio Projects:
The course will be taught primarily through studio exercises, assignments, and projects of varying duration.

Exercises: The Geographic Information System (GIS) and remote sensing will be taught primarily through exercises following the text book. Studio exercises consist of introducing GIS and remote sensing, displaying data, data manipulating, and presenting data.

Assignments: Individual or team research assignments will also be given in order to review fundamental concepts with natural processes, ecological inventory and analysis, and contemporary landscape planning issues. Based on the topic of the assignment each student or team will be required to present or write a report.

Project(s): Due to the broad knowledge base of the content and the analytical and technical nature of the GIS, no more than two studio projects will be undertaken by studio IV. In these project(s), students are expected to apply knowledge of environmental systems, ecological principles as well as GIS and remote sensing techniques in environmental planning to a particular region and a site problem. Major project(s) for the class will be determined later in the semester based on the progress of the student with the GIS technology. Outcome of the studio project will be in both report and poster format with accompanying PowerPoint presentation. The deliverables for the project(s) will contain GIS data analysis, maps, technical graphics, and photography.

Reading Assignments: At least one reading assignment relevant to the natural processes, environmental planning, landscape ecology, or GIS will be given each class. Time to time students will be required to summarize (one page, 12pts, single-space), critique, or take random quizzes on the assigned readings.

Field Trips: Time to time class may meet outside the classroom to visit a potential project site or to study environmental issues at site. Some of these field trips may take place outside the class time and on weekends.

Class Folder: LARC 5664 has allocated storage spaces on UTA server "\\Iridium\classes\larc5664tro". This space will be used to store student assignment submission (dropbox), class syllabi, hard copies of assignment parameters, etc.

VI. Criteria for Evaluation of Student Performance:

Instructor Evaluation, Participation and Preparedness,	5%
Quizzes, Readings and Paper/Lecture Critiques,	8%
Assignments, Exercises, and Attendance,	27%
Studio Project(s),	60%

Notes:
Student Work Submissions: All student works (projects, case studies assignments, sketchbook, exercises, and critiques) must be submitted on time both digitally and as hard copy in order to be considered for full credit.

Late submissions: All student works (projects, assignments, exercises, and critiques), unless otherwise notified by the instructor, are due at the beginning of the class by 6:00pm every class day. Work not submitted by the due date is a late work and will not be accepted for a full grade. Submission of work past the due date will result in a reduction of 25% of full grade for each day (24 hour) late. Project that is not submitted within 4 days will not be considered for grade. Studio projects that are not fully completed nor submitted on time will not be considered for formal presentation and will receive "0" for presentation grade.

Attendance: Attendance is required for LARC 5664. Each unexcused absence will result in a reduction of half a letter from grade from the final grade for the course. If you have a university excused absence and are unable to turn in your completed work you must consult with your instructor, and turn in all work completed up to that time to be eligible for an extension on your assignment and/or project.

Late Attendance/Early Departure: Students must be present and attentive in the classroom during the time of the class which is 6:00pm-9:50pm Tuesdays and Thursdays. Three late attendances or early departures from the class are considered as one absence. Attendance will be recorded by the instructor.

Make-up Exams: There are no make-up exams for the course unless student provides university excused absence.

Expectations for Out-of-Class Study: According UTA general rule of thumb is this: for every credit hour earned, a student should spend 3 hours per week working outside of class. Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional 18 hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

VII. Textbooks:
Required Books:
Law, M.& Collins, A (2015). *Getting to Know ArcGIS for Desktop: 4th edition*. Redlands: ESRI PRESS. ISBN: 9781589483828 1589483820 (ESRI ArcGIS 10.2 & 10.3).

Marsh, William M. (2010). *Landscape Planning: Environmental Applications*, John Wiley & Sons, New York, NY (5 edition, July 6, 2010). ISBN-10: 0470570814 ISBN-13: 978-0470570814

Steiner, Frederick (2008). *The Living Landscape: An Ecological Approach to Landscape Planning, 2nd Edition*, McGraw-Hill, New York, NY.

Additional reading materials will be shared during the class or posted at: \\Iridium\classes\larc5664tro

Recommended Books:
McHarg, Ian (1969). *Design With Nature*, New Edition, John Wiley & Sons, New York, NY.

Dramstad, W.E., Olson, J.D. and Forman, R.T.T., (1996). *Landscape Ecology Principles in Landscape Architecture and Land-Use Planning*. Island Press.

Steinitz, C. (2012). *A Framework for Geodesign: Changing Geography by Design*. Redlands, Calf: Esri.

Turner, Monica G.; Gardner, R. H.; O'Neill, Robert V. (2001). *Landscape Ecology in the Theory and Practice: Pattern and Process*, Springer, New York, NY.

Forman, Richard T.T. (1999). *Land Mosaics-The Ecology of Landscape and Regions*, Cambridge University Press, New York, NY.

Lyle, John T. (1996). *Regenerative Design for Sustainable Development*. John Wiley & Sons Inc. New York, NY.

Van der Ryn, Sim; Cowan, S. (1996). *Ecological Design*, Island Press, Washington, DC.

Hawken, Paul; Lovins, A.; Lovins, L. H. (1999). *Natural Capitalism*, Little, Brown and Company, Boston, MA.

Hanna, K. C. (2003). *GIS for Landscape Architects*. Redlands, California: ESRI

Ndubisi, Forster (2002). Ecological Planning: A Historical and Comparative Account. Baltimore: John Hopkins University Press.

Brewer, Cynthia (2005). *Designing Better Maps: A Guide for GIS Users*. ESRI Press

VIII. Other Equipment and Materials:
Please visit School of Architecture's Laptop policy and requirements for details at
http://www.uta.edu/architecture/admissions/laptop.htm) with following Software:

- ArcGIS Desktop 10.3 (180 day copy of this software will come with the textbook)
- The ArcGIS Desktop student trial software is also available via download from Esri with a one year renewable authorization code. For this please write your librarian, Mitch Stepanovich at stepanovich@uta.edu and include your name, student number, and professor's name.
- Google Earth (Freeware, can be downloaded from Google website)
- Adobe Photoshop CC or above (Adobe Creative Suite 5 or above is suggested),
- A storage device such as external hard drive, or flash drive (8 GB or more),
- Personal Digital Camera (**optional** but quite useful, no less than 8 MP)
- Sketchbook/Notebook: Sketchbooks should be <u>unrolled</u>, minimum 8.5"x11" size,
- Photo Quality Plotting Paper (A roll can be purchased as a group).

IX. Selected Relevant Websites & Data Warehouses:

1. Some resources, and instructional materials will be provided digitally at:
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2. TNRIS (Texas Natural Resource Information System): http://www.tnris.state.tx.us/
3. NRCS USDA Data Gateway: http://datagateway.nrcs.usda.gov/
4. UTA GIS library: http://libraries.uta.edu/gis/geo.htm
5. US Eco-regions: http://www.epa.gov/wed/pages/ecoregions/level_iii.htm
6. North Central Texas Council of Governments (NCTCOG):
   http://gis.nctcog.org/ --- Starting from 2013 NCTCOG data is subscription based only and you have privileges through UTA to access these sources. Please visit NCTCOG website at (http://www.nctcog.org/ris/cdp/RequestAccount.aspx) and register for an account using your official UTA email address. Once submitted, you will receive an email confirmation verifying that you are a member of a member institution (which UT Arlington now is) and you will then be able to log in as you wish from the main page (http://www.nctcog.org/ris/cdp/AboutUs.aspx).

X. Librarian Resources and Contacts:
The following is a list of commonly used library resources in this course:
Library Home Page .... http://www.uta.edu/library
Subject Guides .... http://libguides.uta.edu
Subject Librarians................................. http://www.uta.edu/library/help/subject-librarians.php
Database List .... http://www.uta.edu/library/databases/index.php
Course Reserves................................. http://pulse.uta.edu/vwebv/enterCourseReserve.do
Library Tutorials .... http://www.uta.edu/library/help/tutorials.php
Connecting from Off- Campus.............. http://libguides.uta.edu/offcampus
Ask A Librarian .... http://ask.uta.edu

XI. Tentative Semester Schedule: (Changes will be updated digitally in class folder)*

Week	Date	Lecture/ Exercises/ Activities
Week1	*Jan. 18 (M)*	***Martin Luther King Jr. Day Holiday***
	Jan. 19 (T)	**Lecture.1 (L1)**:INTRODUCTION, COURSE OVERVIEW • Overview natural processes environmental & ecological planning • ***Assignment-I,*** *Physiographic Framework of the US* • Reading I Chp.Intro-1 Marsh • ArcGIS Software
	Jan. 21 (Th)	**L.2:** "INTRODUCTION TO GIS" • Reading 2 Chp.2 Marsh • Assignment-1 Desk Crits

* This is a tentative schedule. Class assignments, schedule and topics may subject to change according to progress of the students, lecture schedules, and the academic schedule of the instructor. Details of the readings, assignments, and projects will be scheduled separately.
** Attendance to these events is encouraged by the instructor or by the program.

XII. Rules, Regulations and Projects
Grade Grievance: Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current graduate catalog. For graduate courses, see:
http://grad.pci.uta.edu/about/catalog/current/general/regulations/#gradegrievances.

General Attendance, Submission, and Late Policy: Attendance is required, unless excused by the instructor. Attendance is mandatory as each class builds upon those that precede it, and interaction with other students in the studio is a fundamental dynamic of the course. Keeping deadline commitments is an integral part of being a Landscape Architect. All studio projects will be submitted instructor both as hard copy and digital copy by the due date. No project will be accepted for credit after the class period that it is due.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. Students will not be automatically dropped for non-attendance. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/ses/fao).

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA).* All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic

accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Title IX: The University of Texas at Arlington is committed to upholding U.S. Federal Law "Title IX" such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit www.uta.edu/titleIX.

Academic Integrity: Students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

"Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts." (Regents' Rules and Regulations, Part One, Chapter VI, Section 3, Subsection 3.2, Subdivision 3.22).

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at http://www.uta.edu/oit/cs/email/mavmail.php.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of

the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit http://www.uta.edu/sfs.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus.* During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is located both north and south end of the architecture building. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.

Landscape Architecture Mission Statement: The mission of the program in Landscape Architecture is to educate for ultimate leadership in the landscape architecture profession. This mission requires fostering rigorous scholarly inquiry of the discipline, and the preparation of knowledgeable practitioners.

Ownership of Student Work: All student work submitted for evaluation is under the proprietorship of the Program (Excluded are such works that may be protected by copyright or patent rules). A representative collection of student work is essential for accreditation and is to be archived on campus for a period of six years. Therefore, it is suggested that students maintain photographs or reproductions of all work submitted, displayed in a cumulative portfolio reflecting student progress while completing the MLA at UT Arlington.

Writing Center: The Writing Center, 411 Central Library, offers individual 40 minute sessions to review assignments, *Quick Hits* (5-10 minute quick answers to questions), and workshops on grammar and specific writing projects. Visit https://uta.mywconline.com/ to register and make appointments. For hours, information about the writing workshops we offer, scheduling a classroom visit, and descriptions of the services we offer undergraduates, graduate students, and faculty members, please visit our website at www.uta.edu/owl/.