

Environmental **DESIGN**

architecture + landscape architecture + planning

University of Calgary / Faculty of Environmental Design

Landscape Architecture Design Research Studio

EVDL 777 F(-0)

Mon-Tues-Wed-Friday 2:00pm – 6:00pm, PF 3176

Winter 2019

Mary-Ellen Tyler

tyler@ucalgary.ca cell phone: 403-804-9252

PF 2105, hours by appointment

Introduction

This is the final studio in the MLA Program sequence. The studio emphasis is on design research and students are expected to use design research methods in identifying a design concept and design program. The course covers the concepts of cultural landscape, social ecological system dynamics, regional landscape change, and contextual planning and design issues related to regional scale systems.

Objectives – Course Learning Outcomes

The objectives of the course and learning outcomes are as follows:

- To acquire an understanding of design research methods and their applications.
- To demonstrate an understanding of cross-scalar analysis and design.
- To acquire a basic knowledge of social ecological system dynamics and cultural landscape.
- To understand design intervention in complex social and ecological landscape systems.

Teaching Approach

The course is organized around the theme of “Archipelago” as a metaphor for exploring the regional landscape of Waterton National Park and its Western Front. The Norway study abroad trip this term involves visiting the Lofoten Archipelago. The studio will look at using this archipelago experience as a metaphor for creating a ‘Prairie Archipelago’ in the Waterton area. Just as the ocean creates a sharp edge with the rocky islands of the Lofoten, the prairie creates a sharp edge with the Rocky Mountains in the Waterton area. The theory of Patch Dynamics will be used as part of the research in identifying a pattern of landscape patches at selected scales. Students will be expected to use design research methods to identify a project concept and design program at an appropriate scale. Examples from the Norway study abroad should also be used where applicable.

Studio Overview: Waterton Front: Designing a Prairie Archipelago

Landscape architecture has traditionally focused on creating meaningful places and experiences through landscape qualities involving memories, symbols, spiritual qualities, meanings, aesthetics, and stories. The notion of a research design studio challenges designers to understand the relationship between research and design. ‘Research Through Design’ (RTD) is a concept that

describes a research approach where the design process in itself becomes a way to acquire new knowledge. The term was coined by Christoffer Frayling in 1993 as a proposal to differentiate between different types of design research, the other ones being research into and for design. This is similar to Donald Schon's "Reflective Practitioner" approach to design problem solving. In both the RTD approach and the Reflective Practitioner approach doing design is the primary 'research' method. Specifically, both design and research can be operationally defined as engaging the phenomena of interest as ways of creating knowledge to better understand the phenomena in order to apply this knowledge/understanding to phenomena-related problem solving and physical or action-oriented interventions in order to create preferred outcomes at different scales and in different contexts.

For the Winter 2019 MLA 777 Studio, we will use the RTD approach to address the creation of a "Prairie Archipelago" along the Eastern edge of Waterton National Park in South Western Alberta.

There is a growing number of people wanting to build either primary or second homes in the wildland interface of Southern Alberta along the eastern slopes of the Rocky Mountain due to the scenic and recreational amenities available. The beauty of the landscape is a primary driver for seeking country residential locations. The wildland-urban interface (WUI) is the spatial area where human settlements adjoin or intermix with local/regional ecosystems. Although most of the WUI research to date has focused on wildfire risk to residential populations, there is a range of potential consequences and cumulative effects of this type of development. The effects of WUI settlements on ecosystems are two tiered, starting with habitat modification and fragmentation and progressing to various diffusion processes in which direct and indirect effects of anthropogenic activities spread into the landscape at varying scales.

The desire to live in, or on, the fringes of wildland areas is not likely to change. What can change is the spatial and ecological design of this interface.

For example, Island biogeographic theory has been applied to the design of nature reserves for many years. However, immigration, which is important for maintaining species equilibrium on true islands, is not sufficient to maintain population equilibrium on reserves because of the loss of re-colonization sources in the surrounding regional landscape. Consequently, internal disturbance dynamics become the critical reserve design feature. As a result, the concept of 'minimum dynamic area' – meaning the smallest area with a natural disturbance regime that can maintain internal re-colonization sources – has become the primary criteria for the design of reserves. Therefore, the design of a minimum dynamic area needs to be based on an understanding of disturbance-generated patch size but this has not been explicitly recognized in previous reserve designs based on island biogeography theory.

Landscapes are responsive cultural images that are both material and immaterial in nature. Cultural landscapes represent a combination of experiential, historical, land use, ecological, and geomorphological relationships. In addition, climate change processes combined with human land use effects continue to modify the structure and function of regional landscapes and their representative social and ecological communities.

Social ecological systems represent processes operating at multiple spatial and temporal scales. Although scale by itself has no specific ecological meaning, understanding landscape change in a social ecological systems context requires understanding what processes and process interactions produce observable and characteristic landscape patterns at different scales over time. Cultural landscapes create the conditions necessary to respond to incremental adjustments in resource availability, and modify the status of inhabitation in response to changing environmental conditions.

Landscape patches have distinct physical characteristics and landscape flows such as temperature, wind, and air pressure can behave and move differently throughout the landscape depending on what land cover types are adjacent to or near to each other. Landscape connectivity also

illustrates the relationship between landscape structure and function. Connectivity refers to the degree to which the landscape facilitates or impedes the flow of energy, materials, water, nutrients, species, and people across the landscape. Connectivity can also affect the opportunities, constraints and rate of movement among patches by affecting movement rates and patterns in the regional landscape. As such, connectivity can affect gene flow and loss of connectivity can result over time in fragmented, small and isolated populations. However, improving the connectivity of one ecosystem element may result in a decrease in connectivity for another element.

The relationship between structure and function is similar to the form and function principle, which states that the interaction between two objects is proportional to their common boundary surface or edge (Forman and Godron, 1986). Therefore, the size and shape of patches affects their ecological and functional characteristics.

Content: Topic Areas & Detailed Class Schedule

PLEASE NOTE: This Schedule is subject to change due to unexpected and uncontrollable events.

1. Week 1: January 14 - 18, 2019 – FIRST CLASS

- Monday - Review of Studio Outline and Critical Dates during the Term
- Tuesday - Research Readings
- Wednesday - Research Questions
- Friday – Build your own archipelago modeling exercise.

2. Week 2: January 21 – 25, 2019

- Monday- research tutorials
- Wednesday – research tutorials
- Friday – Waterton Field Trip

3. Week 3: January 28 – February 1st, 2019

- Monday –research questions tutorials
- Friday – research questions presentation

4. Week 4: February 4 – 8, 2019

- Monday - concept tutorials
- Tuesday – field trip preparation
- Wednesday – Waterton Field Trip

5. Week 5: February 11 - 15 – NO CLASS – NORWAY Study Abroad Trip

6. Week 6: February 18 – 22 NO CLASS – NORWAY Study Abroad Trip and U of C Mid-Term Break.

7. Week 7: February 25 – March 1, 2019

- Wednesday – design program tutorials
- Friday – design program tutorials

8. Week 8: March 4 – 8, 2019

- Monday – Concept Presentations in Class
- Wednesday - Tutorials

9. Week 9: March 11 – 15, NO CLASS – EVDS Block Week and Norwegian Student Exchange Visit

10. Week 10: March 18 – 22, 2019

- Monday - Tutorials
- Wednesday – Tutorials (optional)
- Friday - Final Concept and Design Program Class Presentation

11. Week 11: March 25 – 29, 2019

- Wednesday - Tutorials

12. Week 12: April 1 – 5, 2019

- Wednesday - Tutorials

13. Week 13: April 8 – 12, 2019 – LAST DAY of Class April 12!

- Wednesday - Tutorials

FINAL STUDIO PRESENTATION DATE: Wednesday, April 17, 8:30am – 4:30pm RM PF 2140

Please Note: Do not make any travel plans or work commitments for this date. All registered studio participants are required to attend.

Means of Evaluation

Course evaluation will be based on for following studio assignments to be completed during the term. There is no final examination in this course but there is a final studio presentation during the studio review week following the last day of classes as above.

- | | |
|---|-----|
| 1. Design Research Process – tutorials and class presentations | 15% |
| 2. Concept Development – tutorials and class presentations | 15% |
| 3. Design Program Development – tutorials and class presentations | 15% |
| 4. Four deliverables required for final studio presentation. | 55% |

Please note: deliverables 1-4 go down in scale from large contextual scale to a relatively small scale for a specific design feature/component:

Deep Cross-Section of Place: This deliverable should represent the layers of analysis or layers of information that reflect the historical evolution (such as social, cultural, geological, ecological, spatial, hydrological, glacial, etc) of the Waterton regional Landscape that you identified, consider important, and that have influenced your design thinking and ‘archipelago’ concept. **Format:** 1 Horizontal Layout of Cross-section in standard size Poster.

Spatial Plan: This deliverable should illustrate the spatial organization of your Archipelago concept patches and programmatic components. Your representation should identify spatial scale/size and the spatial location of major landscape and programmatic features associated with your Archipelago design concept. **Format:** 1 standard size printed poster representing your archipelago in plan view.

3 dimensional digital model and 1 cross section of your archipelago site design: This deliverable should represent the primary program elements of your selected site.

Format: 2 posters (digital model + cross section)

Physical Model and Materials Palette of a specific design element: This deliverable should

physically manifest a specific design element of importance within your site.

Format: Physical model using your choice of materials.

Total

100%

NOTE: As per FGS and U of C regulations, students will be informed of grades *currently earned* one week before the withdrawal deadline in all courses.

Grading Scale

Final grades will be reported as letter grades, with the final grade calculated according to the 4-point range. Assignment grades will be evaluated as percentage grades, with their letter grade equivalents as shown.

Grade	Grade Point Value	4-Point Range	Percent	Description
A+	4.00	4.00	95-100	Outstanding - evaluated by instructor
A	4.00	3.85-4.00	90-94.99	Excellent - superior performance showing comprehensive understanding of the subject matter
A-	3.70	3.50-3.84	85-89.99	Very good performance
B+	3.30	3.15-3.49	80-84.99	Good performance
B	3.00	2.85-3.14	75-79.99	Satisfactory performance
B-	2.70	2.50-2.84	70-74.99	Minimum pass for students in the Faculty of Graduate Studies
C+	2.30	2.15-2.49	65-69.99	All final grades below B- are indicative of failure at the graduate level and cannot be counted toward Faculty of Graduate Studies course requirements.
C	2.00	1.85-2.14	60-64.99	
C-	1.70	1.50-1.84	55-59.99	
D+	1.30	1.15-1.49	50-54.99	
D	1.00	0.50-1.14	45-49.99	
F	0.00	0-0.49	0-44.99	

Notes:

- A student who receives a "C+" or lower in any one course will be required to withdraw regardless of their grade point average (GPA) unless the program recommends otherwise. If the program permits the student to retake a failed course, the second grade will replace the initial grade in the calculation of the GPA, and both grades will appear on the transcript.
- Students are expected to complete all course assignments on time. There will be no final exam.
- Students must obtain an overall passing grade to pass this course,
- A student who feels that a piece of graded term work (term paper, essay, test, etc.) has been unfairly graded may have the paper re-graded. The student shall discuss the work with the instructor within **fifteen days** of being notified about the mark or of the item's return to the class. More information can be found in the Graduate Calendar: <http://www.ucalgary.ca/pubs/calendar/grad/current/gs-o.html>

Readings

- Assigned Readings will be posted on D2L.

Supplementary Course Fees

2018/2019 Supplementary Fees have been approved for the following courses:

ARST 484/EVDA 580 - Studio I Design Thinking	\$150.00
ARST 444/EVDA 582 - Studio II in Architecture	\$150.00
EVDA 682.02 – Intermediate Studio	\$150.00
EVDA 682.04 - Comprehensive Arch. Studio	\$150.00
EVDA 782 - Senior Arch. Studio (all Calgary sections)	\$150.00
EVDL 667 – Landscape Architecture Studio I	\$150.00
EVDL 668 – Landscape Architecture Studio II	\$150.00
EVDL 767 – Regional Landscape Systems Studio	\$150.00
EVDL 777 – Senior Research Studio in Landscape Architecture	\$150.00
EVDS 620 – Urban Design Studio	\$150.00
EVDS 640 – Regional Planning Studio	\$90.00
EVDP 625 – Site Planning Studio	\$75.00
EVDP 626 – Landscape Planning and Ecological Design	\$100.00
EVDP 636 – Community Planning Studio	\$150.00
EVDP 644 – Advanced Professional Planning Studio	\$150.00

Notes:

1. Written work, term assignments and other course related work may only be submitted by e-mail if prior permission to do so has been obtained from the course instructor. Submissions must come from an official University of Calgary (@ucalgary) email account.
2. Academic Accommodations. Students who require an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to their Instructor or the designated contact person in EVDS, Jennifer Taillefer (jtaillef@ucalgary.ca). Students who require an accommodation unrelated to their coursework or the requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Vice-Provost (Student Experience). For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/
3. Plagiarism - Plagiarism involves submitting or presenting work in a course as if it were the student’s own work done expressly for that particular course when, in fact, it is not. Most commonly plagiarism exists when:(a) the work submitted or presented was done, in whole or in part, by an individual other than the one submitting or presenting the work (this includes having another impersonate the student or otherwise substituting the work of another for one’s own in an examination or test),(b) parts of the work are taken from another source without reference to the original author,(c) the whole work (e.g., an essay) is copied from another source, and/or,(d) a student submits or presents work in one course which has also been submitted in another course(although it may be completely original with that student) without the knowledge of or prior agreement of the instructor involved. While it is recognized that scholarly work often involves reference to the ideas, data and conclusions of other scholars, intellectual honesty requires that such references be explicitly and clearly noted. Plagiarism is an extremely serious academic offence. It is recognized that clause (d) does not prevent a graduate student incorporating work previously done by him or her in a thesis. Any suspicion of plagiarism will be reported to the Dean, and dealt with as per the regulations in the University of Calgary Graduate Calendar.
4. **Appeals:** If a student has a concern about the course, academic matter, or a grade that they have been assigned, they must first communicate this concern with the instructor. If the concern cannot be resolved with the instructor, the student can proceed with an academic

appeal, which normally begins with the Faculty:
<http://www.ucalgary.ca/provost/students/ombuds/appeals>

5. Information regarding the Freedom of Information and Protection of Privacy Act (<https://www.ucalgary.ca/legalservices/foip>)
6. Emergency Evacuation/Assembly Points (<http://www.ucalgary.ca/emergencyplan/assemblypoints>)
7. Safewalk information (<http://www.ucalgary.ca/security/safewalk>)
8. Contact Info for: Student Union (<https://www.su.ucalgary.ca/contact/>); Graduate Student representative <https://gsa.ucalgary.ca/about-the-gsa/gsa-executive-board/>) Student Union Wellness Centre: <https://www.ucalgary.ca/wellnesscentre/>; Library Resources: <http://library.ucalgary.ca/> and Student Ombudsman's Office (<http://www.ucalgary.ca/ombuds/>).