UNIVERSITY OF CALGARY
SCHOOL OF ARCHITECTURE, PLANNING AND LANDSCAPE

Course Title: Research Skills and Critical Thinking			
Course Number	EVDS 753		
Instructor Name	Sasha Tsenkova	Instructor Email	tsenkova@ucalgary.ca
Office Location	PF2109		
Class Dates	Fall 2019, Mondays		
Class Times	9:00am to 12:10pm		
Class Location	PF 2110		

Course Information / Description of the Course

Introduction

Research is arguably the most exciting aspect of the academic enterprise. To be the first to create new knowledge, or to interpret existing concepts in a novel way, is extremely satisfying and rewarding. Like any endeavor, there are sets of tools that have been developed to assist in conducting research. Some of them, like statistical methods, are common across disciplines. Others are predominantly used by researchers in certain fields, such as "field observation" or "content analysis". Environmental design has its own research methods and traditions, drawing liberally from other fields, and adding some of its own such as design research and research-based design practice.

One common thread in all research is the ability to think critically. This is a disciplined process in which the researcher not only questions established ideas, but also looks "under the hood" to recognize the quality of supporting evidence, assumptions, biases, and interpretations that have been applied to observations and theories. This course emphasizes the nature of inquiry of environmental design research, framing environmental design research problems, and skills for developing research proposals and literature review.

Objectives

The purpose of the course is to teach students about developing environmental design research proposals that exhibit thoughtful, thorough, theoretical and practical understanding of the background, purposes and processes employed in scholarly research. The course objectives are to:

- Develop an understanding of qualitative research methods and know when each is appropriate to apply.
- Conduct successful literature research and use precedents for framing a research problem.
- Create a conceptual framework for a research project while thinking critically regarding the testing of assumptions and ideas.
- Understand the iterative nature of environmental design research, including the evolution of research questions or objectives, and allowing ideas to mature through debate and inquiry.
- Develop a research proposal following guidelines of the Social Sciences and Humanities Research Council of Canada (SSHRC), the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council of Canada (NSERC), or equivalent.

Teaching Approach

Students will be guided in developing a research design, conceptual framework and academic proposal to address a focused research topic of their choice, preferably their thesis topic. Lectures, group exercises, presentations, tutorials, discussion and feedback on assignments are employed in experience-based, inquiry-focused way to address diversity of approaches for intervention-oriented environmental design research. Emphasis is placed on collegial exchanges among class participants including students, instructor, advisors or supervisors, and mentors. Each student will be expected to complete a literature review on their selected topic and a research proposal suitable for submission to a Tri-Council agency (or equivalent) by the end of the course. The course is run as a research studio with a typical weekly format that includes regular classes, sessions dedicated to independent student research, presentations, and one-on-one specific feedback.

Learning Resources

Reading Required

Robson, C. & McCartan, K. (2017) Real World Research. 4th edition. Wiley, Toronto.

Readings Recommended

The following are suggested readings for the course. Journal articles are available through University of Calgary Library digital resources. Books may be found in the library or purchased from the bookstore, Chapters/Indigo (www.chapters.indigo.ca), or Amazon (Amazon.ca).

Bradley, C. and E. Green. 2011. Reflective journaling. Centre for teaching and Learning. University of Regina. http://www.uregina.ca/ctl/blog/reflective-journaling

Dorst, K. (2008). Design research: a revolution-waiting-to-happen. *Design Studies* 29: 4-11.

Friedman, K. 2003. Theory construction in design research: criteria, approaches, and methods. *Design Studies* 24:507-522.

Guthery, F. 2008. Statistical ritual versus knowledge accrual in wildlife science. *The Journal of Wildlife Management* 72(8): 1872-1875.

Kuipers, T.A., Vos, R., and Hauke, S. 1992. Design Research Programs and the Logic of Their Development. *Erkenntinis* 37: 37-63.

Maxwell, J.A. 2013. Conceptual framework: What do you think is going on? *in* L. Bickman and D. Rog (eds.) *Qualitative research design: An interactive approach*. Sage Publications Inc., Los Angeles: 39-72.

Zerubavel, E. 1999. *The clockwork muse: A practical guide to writing theses, dissertations, and books.* Harvard University Press. 128 pp.

Web Sites by Topic

Annotated bibliographies: http://www.writing.utoronto.ca/advice/specific-types-of-writing/annotated-bibliography

Reflective journaling: http://www.uregina.ca/ctl/blog/reflective-journaling

Additional Readings (select on the basis of relevance to your topic)

Bayazit, N. (2004). "Investigating design: A review of forty years of design research." *Design Issues* 20(1): 16-29.

Buchanan, R. 2001. Design research and the new learning. *Design Issues* 17(4):3-23

Castán Broto, V., M. Gislason, et al. (2009). "Practicing interdisciplinarity in the interplay between disciplines: experiences of established researchers." *Environmental Science & Policy* 12(7): 922-933.

Dalrymple, J. and W. Miller (2006). "Interdisciplinarity: a key for real-world learning." *Planet* 17: 29-31.

Dimagio, P.J. (1995). Comments on "What Theory is Not". *Administrative Science Quarterly*, 40(3), 391-397.

Dorst, K. (2008). Design research: a revolution-waiting-to-happen. *Design Studies* 29: 4-11.

Downton, Peter (2005). *Design Research*. Melbourne, AUS: RMIT University Press.

Eastman C., W.C. Newstettler and W.M. McCracken, eds. (2001). *Design knowing and learning: cognition in design education.* Elsevier, Oxford.

Friedman, K. 2003. Theory construction in design research: criteria, approaches, and methods. *Design Studies* 24:507-522.

Guthery, F. 2008. Statistical ritual versus knowledge accrual in wildlife science. *The Journal of Wildlife Management* 72(8): 1872-1875.

Koestler, A. (1973). *The Act of Creation*. New York, NY: Dell Publishing Co., Inc.

Kuhn, T. (1970). *The Structure of Scientific Revolutions*. Chicago, IL: University of Chicago Press.

Lakatos, I., & Musgrave, A. (eds.) (1974). *Criticism and the Growth of Knowledge.* London, UK: Cambridge University Press.

Lawson, B. (2007). *What Designers Know*. Burlington, MA: Architectural Press, Elsevier Ltd.

Lieblich, A., Tuval-Mashiach, R., & Zilber, T. (1998). *Narrative Research: Reading, Analysis, and Interpretation*. Thousand Oaks, CA: Sage Publications, Inc.

Locke, L.F., Spirduso, W.W., & Silverman, S.J. (1993). *Proposals that Work*. Newbury Park, CA: Sage Publications.

Mason, J. (1996). *Qualitative Researching*. Thousand Oaks, CA: Sage Publications, Inc.

Morgan, G. (Ed.) (1983). *Beyond Method, Strategies for Social Research*. Thousand Oaks, CA: Sage Publications, Inc.

Nicolescu, B. (2005). *Transdisciplinarity past, present and future. Moving Worldviews*. Soesterberg, the Netherlands.

Oxman, R. 2004. Think-maps: teaching design thinking in design education.
Design Studies 25:63-91.

Pacanowsky, M. (1995). "Team tools for wicked problems." *Organizational Dynamics*, 23(3), 36-52.

Popper, K.R. (1992). *The Logic of Scientific Discovery*, London, UK: Routledge.

Schön, D. A. (1983) *The Reflective Practitioner: How professionals think in action*. London, UK: Temple Smith

Schön, D. A. (1987) *Educating the Reflective Practitioner*. San Francisco, CA: Jossey-Bass.

Schön, D.A. and G. Wiggins. 1992. Kinds of seeing and their functions in designing. *Design Studies* 13:135-156.

Simon, H.A. (1996). *The Sciences of the Artificial*. Cambridge, MA: MIT Press.

Slife, B.D., & Williams, R.N. (1995). *What's Behind the Research*? Thousand Oaks, CA: Sage Publications, Inc.

Sommer, R., & Sommer, B.B. (1980). *A Practical Guide to Behavioral Research*. New York, NY: Oxford University Press.

Sutton, R.I., & Staw, B.M. (1995). What Theory is Not. *Administrative Science Quarterly*, 40(3), 371-384.

Tress, B., G. et al. (2009). "Integrative research on environmental and landscape change: PhD students' motivations and challenges." *Journal of Environmental Management* 90(9): 2921-2929.

Wener, R. (2008). "History and Trends in Environmental Design Research (EDR)." *Journal of Architectural and Planning Research* 25(4): 282-97.

Weick, K.E. (1995). What Theory is Not, Theorizing Is. *Administrative Science Quarterly*, 40(3), 385-390.

Zeisel, J. (1988). *Inquiry by Design*. New York, NY: Cambridge University Press.

Course Learning Outcomes

At the end of this course, students will be able to:

1. Develop an in-depth understanding of research methods and identify appropriate methods applicable to their research.

2. Conduct successful literature research and use precedents for framing a research problem.
3. Create a conceptual framework for a research project while thinking critically regarding the testing of assumptions and ideas.
4. Develop a research proposal following guidelines of the Social Sciences and Humanities Research Council of Canada (SSHRC), the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council of Canada (NSERC), or equivalent.

Assessment Components

Assessment Method	Description	Weight	Aligned Course Learning Outcome
Written component	Topic & annotated bibliography	15%	1 and 2
Written component & presentation	Research objectives and literature review	25%	1,2 and 4
Written component	Conceptual framework & methodology	20%	1 and 3
Written component	Research proposal	25%	1,2,3,4
Class participation	Participation in class discussion & presentations	15%	1,2,3,4

Assessment and Evaluation Information

Students will be expected to attend all lecture and seminar sessions and studios, and should notify the instructor by email if an illness or emergency prevents attendance. Students will also be expected to read assigned readings and come to class prepared to discuss the issues and concepts raised in the readings and other assignments. Discussions will be respectful of all opinions.

The course evaluation will be based on assignments and participation in class discussions, presentations and peer review. Quality of writing (spelling, grammar, clarity) or other forms of communication (visual, oral, etc.) will be a component of the assessment of all assignments. Writing skills are important to academic study across all disciplines. Writing quality is a factor in the evaluation of student work. Please refer to 'Writing Across the Curriculum' policy statement in the course calendar:
http://www.ucalgary.ca/pubs/calendar/current/e-2.html

The class schedule provides opportunities for in class presentations of assignments, reflective learning and constructive feedback through individual consultations on students' proposals and ideas. Participation will be evaluated on the basis of engagement in class discussions and the presentation of a research method (individual or group) selected for in-depth exploration.

Assignments should be submitted using D2L, and are due by 11:59pm on the day listed on this schedule unless otherwise directed by the instructor.

Students are expected to complete all course assignments on time and late penalty will be assigned if this is not the case. Students must obtain a passing grade in all assignments to pass the course as a whole. A student who feels that a piece of graded term work has been unfairly graded may have the paper re-graded. The student shall discuss the work with the instructor within seven 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

There will be no final examination.

Please note that there would be no classes during October block week (21-25) and November reading week (11-15).

Students are advised to work with their supervisors and keep them informed of their progress in the development of a research proposal throughout the course. The consultation is highly beneficial for the development of a relevant, conceptually sound and feasible research proposal that will guide your work in the future. The attendance of the supervisor at the final presentation in November is recommended and should be arranged by the student.

Assignment 1 (written): Research topic and annotated bibliography. The report begins with a brief review (250-word limit) of the research topic, including key concepts. The annotated bibliography includes the citation and your abstracted review of information in the article including its content, the author's arguments, and most importantly, key words and your thoughts on the relevance of the article to your research interests noted for future reference. The abstracted review of information normally should not exceed 150 words per source. This written assignment must be formatted according to provided guidelines. The minimum number of annotated entries in the bibliography is 10 journal articles, papers, book chapters, or other peer reviewed references (i.e. primary academic literature).

Assignment 2: Research problem statement, purpose and objectives, and literature review (1,000 words). The research problem statement provides a brief overview of the phenomenon and a specific research problem (focus). The purpose describes the qualitative end point of the project (what you propose to achieve). Objectives or research questions are specific foci for the research, which if addressed will accomplish the purpose of the project. The literature review should briefly address the state of knowledge on your research topic, identify the theoretical framework, the knowledge gaps that your research addresses, and highlight key concepts, variables or relationships pertaining to your research. Presentations in class in October (to be scheduled).

Assignment 3: Describe your conceptual framework, including a concept map, as it relates to your research problem, citing appropriate theoretical references. Describe the methods you will use to undertake this research including the overall approach, data collection methods

and data analysis methods. Cite previous research that has addressed similar research objectives or questions and appropriate methodology references to support your choices. There should be a clear relationship between the conceptual framework and the methodology. Include your problem statement and objectives at the beginning of the report for reference. Ideally, the research report of 1,000-1,200 words would highlight all material to be included in a written research proposal for submission to the Canadian Institutes of Health Research (CIHR), Natural Sciences and Engineering Research Council of Canada (NSERC), or Social Sciences and Humanities Research Council of Canada (SSHRC) (called 'Tri-Council'), or equivalent.

Assignment 4 (written): Complete written research proposal, following guidelines of 'Tri-Council', or equivalent as approved by instructor. Ongoing presentations in class in November with individual consultations, as appropriate.

Students are strongly encouraged to submit your research funding proposal to the relevant competition by the internal University deadline (details will be provided in class as they differ by program and Masters/Doctoral level). These dates generally fall before the end of the Fall term. While students are welcome to take the time to polish, complete and submit Assignment 4, we encourage the students to submit a complete proposal to the appropriate agency (as judged by the instructor) by the University deadline. In other words, we really want you to submit your best proposal in time for the relevant competition(s).

Grading Scale

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	

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.

Media and Recording in Learning Environments

Part 1

University Calendar: https://www.ucalgary.ca/pubs/calendar/current/e-6.html

Recording of lectures (other than audio recordings that are pre-arranged as part of an authorized accommodation) is not permitted.

Students may not record any portion of a lecture, class discussion or course-related learning activity without the prior and explicit written permission of the course instructor or authorization from Student Accessibility Services. For any other use, whether by duplication, transcription, publication, sale or transfer of recordings, written approval must be obtained from the instructor for the specific use proposed. Any use other than that described above constitutes academic misconduct and may result in suspension or expulsion.

Part 2

  The instructor may use media recordings to capture the delivery of a lecture.

The instructor will notify all students and guests in the class that the event is being recorded. If a student or guest wants to take steps to protect privacy, and does not want to be recorded, the instructor will provide the individual (s) with an alternative means of participating and asking questions (e.g., passing written notes with questions). Students cannot be penalized for choosing not to be recorded in situations where participation is part of the course. Students must be offered other ways of earning participation credit that do not involve recording.

Any video-recording would be intended to only capture the instructor and the front of the classroom. Students/other participants would not necessarily be visible on video recordings.

University of Calgary Policies and Supports

ACADEMIC ACCOMMODATION

Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services; SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/. Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their Instructor. The full policy on Student Accommodations is available at http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf.

ACADEMIC MISCONDUCT

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, (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. Any suspicion of plagiarism will be reported to the Dean, and dealt with as per the regulations in the University of Calgary Graduate Calendar.
For information on academic misconduct and its consequences, please see the University of Calgary Calendar at http://www.ucalgary.ca/pubs/calendar/current/k.html

COPYRIGHT LEGISLATION:

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf) and requirements of the copyright act (https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html) to ensure they are aware of the consequences of unauthorised sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY

Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary.

UNIVERSITY STUDENT APPEALS OFFICE: 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. https://ucalgary.ca/student-appeals/

More student support and resources (e.g. safety and wellness) can be found here: https://www.ucalgary.ca/registrar/registration/course-outlines