



Urban Infrastructure and Land Use

EVDS 616 H(3-0)

Urban Infrastructure and Land Use

Winter 2020

Tuesday : 9:00 AM – 12:10 PF 2165

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Introduction

In this course students will be acquainted with the key infrastructure systems of a city. We will examine current policies, standards and practices, challenges, and innovations in the following infrastructure sectors: water, sewage, waste management, energy, transportation, food and communication. We will discuss the relationship between infrastructure systems and land use, and its impacts on quality of life, economic development, spatial structure, and the environment. Emphasis will be given to sustainable, low-carbon infrastructure development. The course also examine various financial and institutional frameworks for delivering infrastructure systems, and how they vary across different contexts.

Objectives

By the end of the course students will be able to...

1. Describe the planning and design processes for major urban infrastructure
2. Identify, evaluate and critique current approaches and emerging innovations in urban infrastructure
3. Construct methods for, and approaches to, conceptual design of integrated sustainable low-carbon infrastructures
3. Perform basic calculations for urban infrastructure design

Teaching Approach

The course incorporates a variety of teaching and learning approaches and includes lectures, guest lectures, field-trips and project-based learning. Students will be given the opportunity to apply critical and creative thinking to the topics in the course. A seminar format will be used to promote discussion of a variety of readings and allow students the opportunity to present and lead discussion on their own research. Field and project-based assignments will provide a hands-on and experiential element to the course.

Please Note: Students are expected to punctually attend all site visits, if unable to, they need to communicate this to the teaching team a week in advance.

Means of Evaluation

The course evaluation will be based on the 3 assignments completed during the term. There will be no final examination. Students must achieve a passing grade in all assignments to complete the course successfully.¹

Assignment 1: Urban Futures: Infrastructure Post-Carbon Frameworks	20%	Due January 28
Assignment 2: Green Infrastructure Precedents	30%	Due February 25
Assignment 3: Designing Infrastructure Futures: Manchester (Group)	40%	Due April 7
Participation		10%
Total		100%

Readings: Course readings: to be provided as required on a weekly basis.

Weekly Schedule

January 14	Course Introduction. Overview of Field Trips, Lectures, Assignments. City of Calgary Councillor Gian-Carlo Carra Imagining Cities in the 21 st Century: Leading Frameworks
January 21	Transportation Planning (Travis Gaede, COC, Sr. Transport Engineer, Strategy) State of the Art: Infrastructure and Land Use FAR, UPI, Population density.
January 28	FAR/UIPI/Density Continued. Assignment 1 Debrief. Assignment 2 City of Calgary Food Systems (Kristi Peters Snider, City of Calgary)
February 4	City of Calgary, Low-Carbon Economy Policy and Planning Bonnybrook Field Trip, Kotch
February 11	ENMAX (C) District Energy. U of C District Heating Plant (Keith Altenhof)
February 18	Reading Week
February 25	Planning, Design and Financing of Urban Infrastructure: CMLC (Dykstra)) Active Transportation Networks (Ryan Martinson)
March 3	Solid Waste – Dave Merridew, City of Calgary
March 10	Block Week
March 17	Flood and Resilience (Field Visit) Charlie Lund
March 24	Project Work
March 31	Project Work
April 7	Project Work
April 14	Student Presentations

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	

Grading 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.

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>