



Course Title: Urban Infrastructure and Land Use
Course Number: PLAN 612
Professor: Mathis Natvik mathis.natvik@ucalgary.ca
(825) 561-8232 Office: PF 3196
Lecture Days: Wednesdays
Lecture Times: 09:00-12:00 Mountain Time **Class Location:** PF 2165

Online Delivery (if applicable)

If classes are required to go online, students will be required to join via zoom using a computer equipped with a web cam, microphone, and reliable internet connection. If unable to participate live due to unforeseen circumstances, inform the instructor in advance to work out an alternative participation activity (e.g., watch the recordings, submit a brief reflection, and actively contribute to the follow-up online discussion). The following zoom invite and passcode will be used if lectures are held online:

<https://ucalgary.zoom.us/j/3671473933>

Meeting ID: 367 147 3933

Passcode (Case Sensitive): **PLAN612**

Course Description

https://sapl.ucalgary.ca/evds_info/courses/w21/PLAN612?destination=courses%2Fw21

Welcome to the winter 2023 offering of Urban Infrastructure and Planning! In this course students will be acquainted with the key infrastructure systems of a city. 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. The course will also examine various financial and institutional frameworks for delivering infrastructure systems. Emphasis will be given to sustainable, low-carbon infrastructure development. We will examine current policies, standards and practices, challenges, and innovations in the following infrastructure sectors:

- Drinking Water Supply
- Sewage Treatment
- Waste Management
- Energy Generation & Supply
- Transportation Mix
- Food Supply & Distribution

Course Hours: 3 (Lecture)

Course Learning Outcomes:

Upon successful completion of the course, you should have developed an understanding of the knowledge, skills, and technologies involved in the following:

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.
4. Perform basic calculations related to urban infrastructure design.

Learning Resources

Readings will be assigned to complement the lectures. Students will be required to complete these readings prior to the related lecture. You may be questioned in class regarding these readings -- come prepared. All readings will be posted on D2L.

Technology and Equipment Needed

You will need access to a computer equipped with Power Point and ArcView or similar software.

Teaching Approach

The course incorporates a variety of teaching and learning approaches and includes lectures, guest lectures, project-based learning, and field trips (if possible!). Students will be given the opportunity to apply critical and creative thinking to the topics in the course.

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.

Assignment 1:	Sustainable Infrastructure Precedent	30%	Due: Feb 01
Assignment 2:	Sustainable Infrastructure Presentation	30%	Due: Mar 01
Assignment 3:	Designing Infrastructure Futures: Manchester (Group)	40%	Due: April 12
TOTAL:			100%

Late Assignments

Unless agreed to by the instructor on compassionate grounds, illness, or for reasons of academic accommodation (see note 2 below), assigned work that is handed in late will be penalized 10% of the total available grade per calendar day late (this includes weekends and holidays). Assignments more than two calendar days late will not be accepted and no credit will be given for them. Assignments must be handed in or presented during scheduled class hours.

Grading Scale

Grade	GPV	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. The School of Architecture, Planning and Landscape will not permit the Flexible Grade Option (CG Grade) for any course offered by the School. (<https://www.ucalgary.ca/pubs/calendar/current/salp-3-3.html>).

Topic Areas and Detailed Course Schedule*

JAN 11	Course Introduction, Overview of Topics & Assignments Review of introductory readings, Introduce Assignments #1 & #2 Drinking Water Supply & Wastewater Treatment
JAN 18	State of Infrastructure in Calgary Transportation Planning
JAN 25	Stormwater Management Infrastructure and Land Use FAR, UPI, Population density
FEB 01	Disaster Planning: Flood, Fire, and other disasters Food Systems – Food distribution, food hubs, food processing, urban agriculture Assignment#1 Due by 11:59 PM
FEB 08	Bonnybrook Water Treatment Plant Virtual Tour Active Transportation Networks (Integrating Infrastructure for Pedestrian, Cycling, Public Transit, and Private Vehicles)
FEB 15	Planning, Design and Financing of Urban Infra. Flood of 2013 and State of Flood Mitigation in Calgary
WINTER BREAK (No Classes!) - Feb 20-24	
MAR 01	Solid Waste Management, ENVAC, Recycling, Reuse (Closing the loop) Urban Agriculture and Infrastructure Assignment#2 Due by 11:59 PM
MAR 08	City of Calgary Food Systems 10:30 AM: Group Networking
SAPL BLOCK WEEK (No Classes!) - Mar 13-17	
MAR 22	9:00 AM: Group Networking Solar Integration
MAR 29	9:00 AM: Group Networking Recycling & Re-use Infrastructure
APR 05	Assignment#3 – Work Day
APR 12	<u>Wed, Apr 12 Lecture: Student Presentations (Assignment#3)</u>

*Note: Schedule may/will change according to availability of guest speakers.

Guidelines for Zoom Sessions

Zoom is a video conferencing program that will allow us to meet at specific times for a “live” video conference, so that we can have the opportunity to meet each other virtually and discuss relevant course topics as a learning community.

To help ensure Zoom sessions are private, do not share the Zoom link or password with others, or on any social media platforms. Zoom links and passwords are only intended for students registered in the course. Zoom recordings and materials presented in Zoom, including any teaching materials, must not be shared, distributed or published without the instructor’s permission.

The use of video conferencing programs relies on participants to act ethically, honestly and with integrity; and in accordance with the principles of fairness, good faith, and respect (as per the Code of Conduct). When entering Zoom or other video conferencing sessions (such as MS Teams), you play a role in helping create an effective, safe and respectful learning environment. Please be mindful of how your behaviour in these sessions may affect others. Participants are required to use names officially associated with their UCID (legal or preferred names listed in the Student Centre) when engaging in these activities. Instructors/moderators can remove those whose names do not appear on class rosters. Non-compliance may be investigated under relevant University of Calgary conduct policies (e.g, Student Non-Academic Misconduct Policy). If participants have difficulties complying with this requirement, they should email the instructor of the class explaining why, so the instructor may consider whether to grant an exception, and on what terms. For more information on how to get the most out of your zoom sessions visit: <https://elearn.ucalgary.ca/guidelines-for-zoom/>

If you are unable to attend a Zoom session, please contact your instructor in advance to arrange an alternative activity for the missed session (e.g., to review the recorded session). Please be prepared, as best as you are able, to join class in a quiet space that will allow you to be fully present and engaged in Zoom sessions. Students will be advised by their instructor when they are expected to turn on their webcam (for group work, presentations, etc.).

The instructor may record online Zoom class sessions for the purposes of supporting student learning in this class – such as making the recording available for review of the session or for students who miss a session. Students will be advised before the instructor initiates a recording of a Zoom session. These recordings will be used to support student learning only and will not be shared or used for any other purpose.

University of Calgary Policies and Supports

COVID-19 PROCEDURE FOR SICK STUDENTS: <https://www.ucalgary.ca/risk/covid-19-procedure-for-sick-students>

UNIVERSITY OF CALGARY COVID-19 UPDATES: <https://www.ucalgary.ca/risk/emergency-management/covid-19-response>

ACADEMIC ACCOMMODATION

It is the student’s responsibility to request academic accommodations according to the University policies and procedures listed below. The student accommodation policy can be found at: <https://www.ucalgary.ca/legal-services/university-policies-procedures/student-accommodation-policy>

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: <https://www.ucalgary.ca/legal-services/university-policies-procedures/accommodation-students-disabilities-procedure>

Students needing an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to their instructor (contact information on first page above).

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/

ACADEMIC MISCONDUCT

Academic Misconduct refers to student behavior which compromises proper assessment of a student's academic activities and includes: cheating; fabrication; falsification; plagiarism; unauthorized assistance; failure to comply with an instructor's expectations regarding conduct required of students completing academic assessments in their courses; and failure to comply with exam regulations applied by the Registrar.

For information on the Student Academic Misconduct Policy and Procedure please visit:

<https://ucalgary.ca/policies/files/policies/student-academic-misconduct-policy.pdf>

<https://ucalgary.ca/policies/files/policies/student-academic-misconduct-procedure.pdf>

Additional information is available on the Academic Integrity Website at <https://ucalgary.ca/student-services/student-success/learning/academic-integrity>

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 (<https://www.ucalgary.ca/pubs/calendar/current/k.html>).

INSTRUCTOR INTELLECTUAL PROPERTY

Course materials created by instructors (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the instructor. These materials may NOT be reproduced, redistributed or copied without the explicit consent of the instructor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing.

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.

SEXUAL VIOLENCE POLICY

The University recognizes that all members of the University Community should be able to learn, work, teach and live in an environment where they are free from harassment, discrimination, and violence. The University of Calgary's sexual violence policy guides us in how we respond to incidents of sexual violence, including supports available to those who have experienced or witnessed sexual violence, or those who are alleged to have committed sexual violence. It provides clear response procedures and timelines, defines complex concepts, and addresses incidents that occur off-campus in certain circumstances. Please see the policy available at <https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf>

UNIVERSITY STUDENT APPEALS OFFICE: If a student has a concern about a grade that they have received, they should refer to Section I of the Undergraduate Calendar (<https://www.ucalgary.ca/pubs/calendar/current/i-3.html>) which describes how to have a grade reappraised. In addition, the student should refer to the SAPL's Procedure for reappraisal of grades

OTHER IMPORTANT INFORMATION

Please visit the Registrar's website at: <https://www.ucalgary.ca/registrar/registration/course-outlines> for additional important information on the following:

- Wellness and Mental Health Resources
- Student Success
- Student Ombuds Office
- Student Union (SU) Information
- Graduate Students' Association (GSA) Information
- Emergency Evacuation/Assembly Points
- Safewalk