



<b>Course Title: Advanced Special Topics in Environmental Design (Smart Communities)</b>			
Course Number	EVDS 683.46		
Pre/Co-Requisites	None		
Instructor Name	Dr. T.P. Keenan	Instructor Email	keenan@ucalgary.ca
Office Location	PFB 4184		
TA Name	None	TA Email	
Class Dates	Fall 2019, Mondays		
Class Times	10:40 - 13:50		
Class Location	PF3160		

<h3>Course Information / Description of the Course</h3>
<p>Thematic inquiry and design related to environmental design topics.</p> <p>Smart Communities may be large or small, physical or virtual, and the concept is about much more than simply acquiring and using the latest high-tech gadgets. In many ways, smartness is a “platform technology” to develop and implement leading-edge ideas that involve goals that are broader than technological efficiency. The social, economic, technical, design and ethical aspects must all be considered, and sometimes difficult decisions must be made.</p> <p>The NYC-based Intelligent Community Forum (<a href="http://www.intelligentcommunity.org/">http://www.intelligentcommunity.org/</a>) defines Intelligent Communities as those which are responding astutely to the challenges presented by globalization, the enormous changes in communications and information technology that have taken place over the past few decades, and the resulting economic transformations.</p> <p>They note that these communities tend to display six key indicators:</p> <ul style="list-style-type: none"><li>• Excellent access to high speed communications</li><li>• An extensive knowledge workforce</li><li>• A culture of innovation in businesses, governments, and institutions such as universities and hospitals</li><li>• Digital equality in both technology access and skills</li><li>• Sustainability, in terms of improving living standards without comprising the ability of future generations to do the same</li><li>• Advocacy to encourage others to embrace change as well as the courage and determination to help drive it.</li></ul>

Increasingly, thought leaders in this field are distinguishing between “smart” and “intelligent” communities. The former use technology in innovative ways to *run their towns or cities better*, providing valuable services to citizens and gaining efficiencies. The latter also take technology into account, then use it (or not) to *make better communities*. Putting a surveillance camera on every street corner would be “smart” in terms of improving citizen safety but might not be “intelligent” if it had a chilling effect on privacy and impacted the use of public spaces.

As another example, Christchurch, NZ deployed an extensive network of sensors to provide early warning of future earthquakes. They then realized that these sensors could also be used to monitor traffic, and even the movements of people, with serious privacy implications. Those seeking to bring smart technologies into play need to be cognizant of all aspects of a “smart” technology before implementing it.

Issues of citizen privacy, surveillance and data usage will be an underlying philosophical theme, both in this course and in the development of Intelligent Communities, as evidenced by Google’s “Sidewalk Labs” experience in Toronto.

This course will involve a study of Smart Communities principles as well as how existing and proposed communities are trying to be “smart” and “intelligent”. Each student will make presentations on an emerging technology that is relevant to Intelligent Communities and of personal interest.

Then, singly or in small groups, students will formulate a well-informed personal vision of what makes a community “smart” and “intelligent”. This knowledge, understanding and wisdom may provide a significant advantage as you pursue your chosen career, be it Planning, Architecture, or something else.

This course is suitable for graduate students in any of the course or thesis-based programs of SAPL, as well as from other faculties. Diversity of backgrounds is definitely a strength in this seminar.

## Learning Resources

Required readings, textbooks and learning materials:

**All required materials will be supplied on D2L.**

Technology requirements (D2L etc.):

**Access to the Internet, D2L and a device capable of playing videos.**

## Course Learning Outcomes

1. To create a personal definition of “Smart Community” and “Intelligent Community” that is consistent with, and expands upon, the generally accepted ones, and relates, in a meaningful way, to the student’s own interests.
2. To acquire sufficient technological background to appreciate the decisions that must be made in becoming a Smart/Intelligent Community
3. To critically evaluate existing communities that claim to already be, or in the process of becoming, a Smart/Intelligent Community.
4. To understand the relationship between Smart/Intelligent Communities and concepts such as urban sprawl, energy conservation, economic opportunity, and sustainability.
5. To appreciate the past, present and future of the Smart Community movement, and how it relates to, and differs from, concepts such as Teleports, Creative Cities and infrastructure projects such as Alberta’s SuperNet and Australia’s NBN.
6. To complete a substantial research project relating to the design of an actual or envisioned Smart Community, as well as an “Annotated Resource Binder” which helps to develop skills in rigorous academic research.

Assessment Components			
Assessment Method	Description	Weight	Aligned Course Learning Outcome
Quiz	Open book quiz on information technology concepts	10%	2
Presentation and discussion facilitation on a technology topic (“Minor Project”)	Select, in conjunction with the instructor, a technology topic to research and present to class	25%	1,2,3,4
Annotated Research Binder	To organize and document research	15%	6
Individual vision of an Intelligent Community (“Major Project”) Group work permitted with increased expectations.	Class presentation and discussion facilitation	15%	1,2,3,4,5,6
Vision of an Intelligent community. Group work permitted with	Written report with references	35%	1,2,3,4,5,6

increased expectations.			
<b>Assessment and Evaluation Information</b>			
Attendance and Participation Expectations: <b>Students are expected to attend all class meetings and may need to meet outside of class hours to complete group projects.</b>			
Guidelines for Submitting Assignments: <b>To be submitted electronically and also presented in class where appropriate.</b>			
Final Examinations: <b>None</b>			
Expectations for Writing ( <a href="https://www.ucalgary.ca/pubs/calendar/current/e-2.html">https://www.ucalgary.ca/pubs/calendar/current/e-2.html</a> ):			
Late Assignments: <b>Will be accepted for valid reasons until the end of the term, with a possible deduction for lateness.</b>			
Criteria that must be met to pass: (e.g. whether or not a passing grade on any particular component of a course is essential if the student is to pass the course as a whole)			
<b>It is not necessary to pass any specific component to pass the course.</b>			

<b>Grading Scale</b>				
<b>Grade</b>	<b>Grade Point Value</b>	<b>4-Point Range</b>	<b>Percent</b>	<b>Description</b>
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.

Topic Areas & Detailed Class Schedule		
Course Schedule Date	Topic (subject to change)	Assignments/Due Dates
Sept. 9, 2019	What is a Smart/Intelligent Community?	
Sept. 16, 2019	The Technologies Behind Intelligent Communities	
Sept. 23, 2019	Innovation and Urban Scientism	Minor Project proposal due
Sept. 30, 2019	The People Side: Digital Divide, Happiness, etc.	Technology Quiz due
Oct. 7, 2019	Jobs and Sustainability	
Oct. 14, 2019	Technology Presentations	Technology presentations due in oral and written form
Oct 21, 2019	No Class – Block Week	
Oct. 28, 2019	The Role of Governments	
Nov. 4, 2019	“Infinite Learning” (2019 ICF Theme); AI and Machine Learning	
Nov. 11, 2019	No Class – Reading Break	
Nov. 18, 2019	Transportation and Big Data	
Nov. 25, 2019	My Vision of an Intelligent Community	Final presentations group 1
Dec. 2, 2019	My Vision of an Intelligent Community	Final presentations group 2
Dec. 6, 2019	End of classes	Updated final presentations due in written form; Annotated resource binders due
Indicate the following dates:		

- If applicable, dates, times and locations of all approved class activities scheduled outside of regular course hours
- If applicable, dates, times, locations and referral to the student centre for unique and binding drop/withdraw deadlines for courses that have been approved to run outside of regular term dates

## 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.

## Special Budgetary Requirements

None.

# 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/](http://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](http://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>