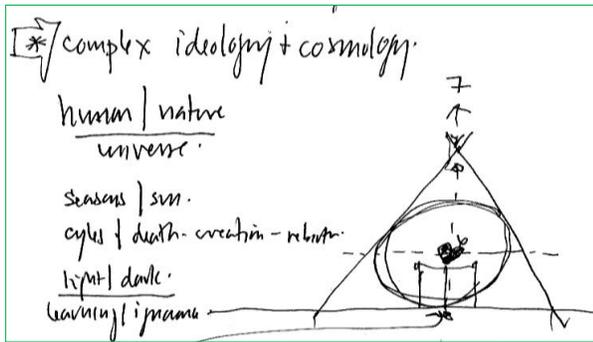


Ecologies of Technologies: Calgary Centre for Aboriginal Culture



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"When shelter is perfected for need, it is not in material terms alone." Paul Oliver (Habitat International)

Instructors:

Dr. Brian R. Sinclair (Course Manager)
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Alan Collyer
Thomas Debicki

Teaching Assistants: Kevin Spaans | Alana Piche

Monday, Tuesday, Wednesday & Friday | 2-6 pm

Preamble

"A little while and I will be gone from among you, when I cannot tell. From nowhere we came, into nowhere we go. What is life? It is the flash of a firefly in the night. It is the breath of a buffalo in the wintertime. It is the little shadow which runs across the grass and loses itself in the sunset." Chief Crowfoot

Aboriginal people have deep and profound connections to the prairies, foothills, spaces and places of Southern Alberta. For generations these lands have held rich spiritual meaning to the Native Community – providing sustenance, offering inspiration, shaping values and defining home. The Comprehensive Studio this semester is focused on a centre that is centrally concerned with capturing, conveying, connecting and celebrating aspects of Aboriginal Culture – telling the remarkable stories of the past, acknowledging the challenges and opportunities of the present, and pointing with hope and courage to the promise of the future. This project, the Calgary Centre for Aboriginal Culture (CCAC) warrants an exceptional Architectural response that brings people, building and landscape into balance and harmony.

Humans employ a wide range of technologies and systems in their creation and modification of environments; included in this are the many technologies involved in the design, construction, and inhabitation of buildings and their related environments. In this studio, the design of a building and its systems, including interrelationships with context (site, climate, regulatory structures, culture, etc.), are explored through the comprehensive development of spatial, structural, enclosure, and environmental systems.

Calgary Centre for Aboriginal Culture

"We know we can never go back to teepees or lodges but we can survive as a people by picking up the good things the elders have left along the trail for us." Waasamo Mi Gabow

The Comprehensive Studio in Winter 2013 considers the design of an innovative centre that embodies and celebrates Aboriginal Culture. The Calgary Centre for Aboriginal Culture will be a 2000 m² 'education, administration & community' facility that brings together Aboriginals and non-Aboriginals in a spirit of learning, sharing and understanding. The non-profit Centre includes a rich mix of uses, users, places and spaces, with key components including education, interpretation, communication, socialization and the promotion of community. Located in Calgary, Alberta, Canada, a city rich the history and traditions of indigenous peoples, the Calgary Centre for Aboriginal Culture finds resonance with its own location while proving an international destination for individuals and groups interested learning about Aboriginal culture, traditions and values. The Architecture & design of the Centre must facilitate and promote the purposes and aspirations of the initiative while concurrently serving as a model of creativity, innovation, integration and sustainability.

Site & Program

The Centre, an approximately 2000 m² education, administration & community facility, will be located in the West Village area of downtown Calgary. This site was carefully determined to provide strong access to transit and the core, to afford rich opportunities for design exploration, and to offer possibilities for identity, branding and high exposure. The architectural programme for the Centre acknowledges the importance of innovation, the potential of design + space to influence behaviour, and the value of a diversity of both uses & users. This site, being both intensely urban and undeniably connected to nature, demands creativity, sensitivity and skill in order to achieve an ethos conducive to the rich traditions and vital aspirations of Aboriginal society. Detailed site information and programmatic requirements for the Calgary Centre for Aboriginal Culture will be distributed separately.

Objectives

The emphasis of the comprehensive design studio is especially on the cultural and environmental (i.e. sustainability) potential of innovative design and building technologies. The studio will explore the relationships between architectural form, its tectonic and material articulation, its cultural resonance and its environmental impacts. The basic curricular objective is the overall formal, spatial, and tectonic resolution of a moderately complex building (Calgary Centre for Aboriginal Culture) of approximately 2000 m², situated in an urban context, including appropriate allocation of the program, resolution of circulation and proper means of egress, as well as a basic articulation of building structure, environmental systems, assembly, and envelope, and adherence to the building codes. Equal consideration will be given to user needs and human dimensions, including environmental perception, symbolism and meaning, ergonomics and adaptability, cultural sensitivity and place-making.

This studio will operate in parallel and will be closely coordinated with the building technology courses. Beyond designing and representing a building, students are expected to develop fully integrated building systems and learn the basics of technical documentation. Building structures, construction assemblies, environmental systems, and energy and resource use will be an important part of research and experimentation in the studio. It is expected that some form of performance feedback will be part of the design explorations.

Requirements

In addition to normative drawings (plans, sections, elevations) and digital 3D models and renderings, various physical scale models may, at the instructor's discretion, be expected at specific stages. In addition to a developed design of the Centre's facilities, its structural and environmental systems will have to be sufficiently articulated and adequately documented. A selected segment of the building's envelope will be developed and modeled in greater detail.

Grading

Reviews will occur at the end of each assignment and grades will be given at each of those points. Grades will be cumulative through the semester, and will count according to time allotment for each assignment. Students are expected to meet all requirements for each assignment to receive a passing grade. In general grades will be based on the following (depending on the topic and the assignment): development (process) 30%, conclusion (product) 30%, presentation 30%, attendance and participation 10%.

Letter Grade	4-Point Scale	4-Point Range	Percent	Description
A+	4.00	4.00	92.5-100	Outstanding - evaluated by instructor
A	4.00	3.85-4.00	85-92.49	Excellent - superior performance showing comprehensive understanding of the subject matter
A-	3.70	3.50-3.84	80-84.99	Very good performance
B+	3.30	3.15-3.49	76-79.99	Good performance
B	3.00	2.85-3.14	73-75.99	Satisfactory performance
B-	2.70	2.50-2.84	70-72.99	Minimum pass for students in the Faculty of Graduate Studies
C+	2.30	2.15-2.49	66-69.99	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	63-65.99	
C-	1.70	1.50-1.84	60-62.99	
D+	1.30	1.15-1.49	56-59.99	
D	1.00	0.50-1.14	50-55.99	
F	0.00	0-0.49	0-49.99	

Note: A student who receives a B- or lower in two or more courses will be required to withdraw regardless of their grade point average unless the program recommends otherwise. Individual programs may require a higher minimum passing grade. A grade point value of 3.0 on the 4-Point Scale is the minimum acceptable average that a graduate student must maintain throughout the program as computed at the end of each registration anniversary year of the program. A student who receives a grade of F will normally be required to withdraw unless the program recommends otherwise.

Schedule

Weeks 1 – 3 Conceptual Design (including site analysis, interpretation & planning)

January 29 (T) Review (10% of the final grade)

Weeks 4 – 7 Design Development

February 18-22 Family Day and Block Week (no studio)

March 05 (T) Mid-term Review (25% of the final grade)

Weeks 8-10 Design + Integration of Building Systems

March 26 (T) $\frac{3}{4}$ Review (25% of the final grade)

Weeks 11-13 Technical Documentation (Final Documentation)

April TBD Final Review (40% of the final grade)

Note: The schedule is subject to change. All review dates are tentative. Various phases of the project will be completed according to a closely coordinated schedule with building technology classes.

Required Textbooks:

Juhani Pallasmaa. *The Thinking Hand: Existential and Embodied Wisdom in Architecture*. (AD Primers Series). John Wiley & Sons: West Sussex, UK. 2009;
Edward Allen and Joseph Iano. *The Architect's Studio Companion: Rules of Thumb for Preliminary Design* (Fourth Edition). New York: Wiley, 2006.

Recommended Reading:

The City:

Gary Bridge and Sophie Watson (Editors). *The Blackwell City Reader (2nd Edition)*. Wiley-Blackwell Publishing: West Sussex, UK. 2010
Nic Clear (Editor). "Architectures of the Near Future". *Architectural Design*. September/October 2009. Profile No. 2010. John Wiley & Sons: West Sussex, UK.
Adrian Lahoud, Charles Rice, and Anthony Burke (Editors). "Post-Traumatic Urbanism". *Architectural Design*. September/October 2010. Profile No. 207. John Wiley & Sons: West Sussex, UK.
Paul L. Knox. *Cities and Design: Critical Introductions to Urbanism and the City*. Routledge: New York, 2011.
Moshen Mostafavi and Gareth Doherty Editors | Harvard University Graduate School of Design). *Ecological Urbanism*. Lars Muller Publishing: Baden Switzerland. 2010.
Metropolis Now! Urban Cultures in Global Cities. Edited by Ramesh Kumar Biswas. SpringerWein: New York, 2000.
"Metropolis Now". *Foreign Policy: Global Politics, Economics & Ideas*. September/October 2010. Especially article: "Beyond City Limits" by Parag Khanna. Pp 120-128.

Theory, Practice & Process:

Jesse Reiser and Nanako Umemoto. *Atlas of Novel Tectonics*. New York: Princeton Architectural Press, 2006.
Tomoko Sakamoto, Albert Ferre and Michael Kubo (Editors). *The Yokohama Project*. Barcelona: Acta, 2003.
Brian R. Sinclair. Culture, Context, and the Pursuit of Sustainability: Contemplating Problems, Parameters, and Possibilities in an Increasingly Complex World. In *Planning for Higher Education*, Ann Arbor: Oct.-Dec. 2009. 38-1, pp. 6-22.

Design | Construction Methods, Delineation & Communication:

- AIA, *Architectural Graphic Standards* (11th edition). New York: Wiley, 2007.
- Edward Allen and Joseph Iano. *Fundamentals of Building Construction: Material and Methods* (Fifth Edition). New York: Wiley, 2009.
- Linda Brock. *Designing the Exterior Wall: An Architectural Guide to the Vertical Envelope*. New York: Wiley, 2005.
- Alan Brookes and Chris Grech. *The Building Envelope and Connections*. Butterworth, 1996.
- Francis DK Ching. *Architectural Graphics* (5th edition). John Wiley: New York 2009.
- Francis DK Ching. *Architecture: Form, Space & Order*. (3rd edition). John Wiley: New York 2007.
- Francis DK Ching and Steven Winkel. *Building Codes Illustrated: A Guide to Understanding the 2006 International Building Code* (2nd edition). New York: Wiley, 2006.
- Francis DK Ching and Cassandra Adams. *Building Construction Illustrated* (3rd edition). New York: Wiley, 2003.
- Manfred Hegger et al. *Construction Materials Manual*. Basel: Birkhauser, 2006.
- Manfred Hegger et al. *Energy Manual: Sustainable Architecture*, Basel: Birkhauser, 2008.
- Thomas Herzog, *Facade Construction Manual*. Basel: Birkhauser, 2005.
- Frank Kaltenbach. *Detail Practice: Translucent Material: Glass, Synthetic Materials, Metal*, Birkhauser, 2004.
- Ulrich Knack et al, *Facades: Principles of Construction*. Basel: Birkhauser, 2007.
- Norbert Lechner. *Heating, Cooling, Lighting: Sustainable Design Methods for Architects*. New York: Wiley, 2008.
- Eberhard Oesterle. *Double-Skin Facades: Integrated Planning*. 2001.
- Christian Schittich. *Glass Construction Manual*. Basel: Birkhäuser, 1999.
- Christian Schittich. *Steel Construction Manual*. Basel: Birkhäuser, 2000.
- Christian Schittich. *Building Skins: Concepts, Layers, Materials*. Basel: Birkhäuser, 2001.
- Bernhard Weller et al. *Glass in Building: Principles, Applications, Examples*. Basel: Birkhauser, 2009.
- Michael Wiggington. *Intelligent Skins*. Architectural Press, 2002.
- 7group and Bill G. Reed. *The Integrative Design Guide to Green Building: Redefining the Practice of Sustainability*. New York: Wiley, 2009.

Important 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.
2. It is the student's responsibility to request academic accommodations. If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 220-8237. (<http://www.ucalgary.ca/drc/node/46>) Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation. You are also required to discuss your needs with your instructor no later than fourteen (14) days after the start of this course.
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. Information regarding the Freedom of Information and Protection of Privacy Act (<http://www.ucalgary.ca/secretariat/privacy>) and how this impacts the receipt and delivery of course material
5. Emergency Evacuation/Assembly Points (<http://www.ucalgary.ca/emergencyplan/assemblypoints>)
6. Safewalk information (<http://www.ucalgary.ca/security/safewalk>)
7. Contact Info for: Student Union (<http://www.su.ucalgary.ca/page/affordability-accessibility/su-structure/contact-info>); Graduate Student representative(<http://www.ucalgary.ca/gsa/>) and Student Ombudsman's Office (<http://www.su.ucalgary.ca/page/quality-education/academic-services/student-rights>).

Special Budgetary Requirements

Special budgetary requirements are limited to the optional purchase of course readings and, in specific courses, mandatory supplementary fees to cover certain expenditures, such as field trips. Mandatory supplementary fees must be approved by the University prior to implementation.

Optional:

For certain courses students may be given the option of purchasing course readings. In these cases the cost of the reading package should be stated. When course readings are available for purchase, a minimum of two copies of the readings must be made available in the EVDS Resource Centre.

Mandatory:

The University has approved supplemental fees for the following courses:

2012/2013 SUPPLEMENTARY COURSE FEES

ARST 484/EVDA 580/EVDS 603 - Studio I Design Thinking	\$92.00
ARST 483/EVDA 501/EVDS 601 – Interdisciplinary Seminar	\$200.00
ARST 444/EVDA 582 - Studio II in Architecture	\$92.00
EVDA 621 – Intro to Design Theories	\$200.00 (for new-to-EVDS M1 students only)
EVDA 682.02 – Intermediate Studio	\$92.00
EVDA 682.04 - Comprehensive Arch. Studio	\$92.00
EVDA 782 - Senior Arch. Studio (all sections)	\$92.00

CACB Student Performance Criteria:

The following CACB Student Performance Criteria will be covered in this course at a primary level (other criteria will be covered at a secondary level): B1: Design Skills; B2: Program Preparation; B3: Site Design; B4. Sustainable Design; B5. Accessibility; B6. Life Safety; B7: Structural Systems; B8. Environmental Systems; B9. Building Envelope; B10. Building Services; B11. Building Materials; C1: Detailed Design Development; C2. Building Systems Integration; C3. Technical Documentation; C4. Comprehensive Design.". (see CACB SPC matrix for further details)

Contact & Office Information

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Please contact instructors and teaching assistants with any questions or concerns. Meetings by appointment.

