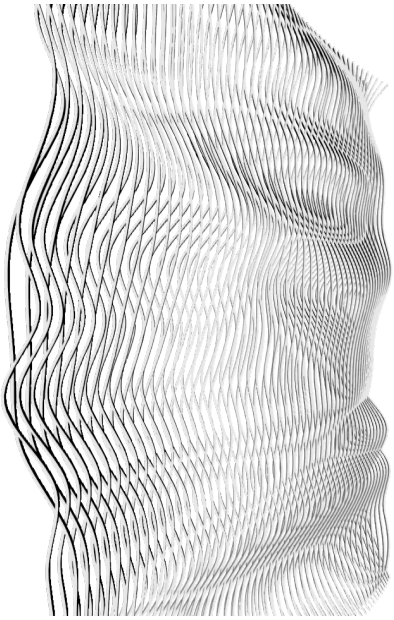
EVDS 683.54 | Seminar & Workshop | H(3-0)
INTEGRATIVE DESIGN

Instructor: Branko Kolarevic, branko.kolarevic@ucalgary.ca
Tuesdays & Thursdays 9:30-10:45 am, PF 2110



Dustin Headley, *Parametric Moire*

Introduction

Terms such as "integrated practice" and "integrated design" have emerged over the past several years as relatively new paradigms in a number of design and design-related professions, most recently in architecture. What is usually meant by these terms is a multidisciplinary, collaborative approach to design in which various stakeholders – for example, architects, engineers, contractors, and fabricators, in the context of building industry – participate jointly from the earliest stages of design, fluidly crossing the conventional disciplinary and professional boundaries to deliver an innovative product at the end.

Two different trajectories are often pursued: the horizontal one that integrates different disciplines across the same scale, and the vertical one that integrates similar disciplines across different scales. In the context of building design, a horizontal strategy would mean the integration of architecture, engineering, and construction, and a vertical one would mean the integration of industrial design, architecture, and urban design, for example. (Other, cross-axial combinations are also possible.)

This course will begin with a brief examination of the various meanings of "integrated design". We will then pursue an alternative vision of this concept, which is more open, fluid, pliable, and opportunistic in its search of collaborative alliances and agendas. We will refer to this alternative approach as *integrative design* in which methods, processes, techniques, and technologies are discovered, appropriated, adapted, and altered from "elsewhere."

Topics/Schedule (by week)

1 Introduction
2 Generative design techniques
3 Parametricism
4 Performativity
5 Robotics
6 Biomimicry
7 Block week (no classes)
8 Project proposals
9 Consultations
10 Consultations
11 Consultations
12 Consultations
13 Consultations
14 Project presentations

Note: The schedule is subject to change.

Objectives

In many ways, this course is about that which could be "borrowed" from elsewhere (i.e. from another disciplinary context) and potentially pursued as a promising trajectory in design. For example, we will examine what it means to *integrate time* as a dimension in design thinking, which is manifested today in very different ways, from weathering, the need to adapt to change, movable parts and reconfigurable assemblies, to time-based modeling of geometric forms using animation software. We will also look into *biomimicry* and how design can *integrate nature* by imitating or taking inspiration from its systems, processes, and elements to address particular design issues (such as sustainability, for example).

In our attempt to engage design as a *broadly integrative endeavor* we will "scavenge" far and wide, and deploy generative computational techniques, digital fabrication, robotics, biomimicry, material exploration, and/or performance analyses to discover and create something (a process, technique, product) that is potentially qualitatively new in design.

Evaluation

The final grade is based on project's development (25%), outcome (25%) verbal (20%) and written presentation (20%), and active participation in discussions (10%). Standard EVDS grading scale will be used in all evaluations.

Teaching Approach

The first half of the course has a seminar format, whereby each topic is introduced in a lecture followed by a discussion of selected readings. The second half will have a workshop format in which a potentially "integrative" proposal (approved by the instructor) will be researched through a 4,000-word paper or an exploratory project that could result in a process, technique, and/or product that will be presented at the end and possibly exhibited.

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. Academic Accommodations: Students who require 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 or the designated contact person in EVDS, Jennifer Taillefer (jtaillef@ucalgary.ca). Students who require an accommodation unrelated to their coursework or the requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Vice-Provost (Student Experience). For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/.

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).