

September 2008

CURRICULUM VITAE

**Duane Elverum, Assistant Professor
Emily Carr University of Art and Design**



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CURRICULUM VITAE

Duane Elverum is Assistant Professor and student advisor at the Emily Carr University of Art, Design where he teaches in Design, Foundation, and Critical Studies, and sits on Sustainability Practices Committee. This past year he taught ECU's first required course in climate change and sustainability for graduating designers, and this coming spring he will teach in SFU's Undergraduate Semester in Dialogue with Janet Moore. He teaches in sustainable systems, green architecture and urban design for the GNW Campus (ECU, UBC, SFU and BCIT) and researches in the area of sustainability learning, aiming to find ways that distinct disciplines can link up to contribute to sustainability.

In 1992 he received a Bachelors degree with honours in architecture from the University of British Columbia for his thesis on Alternative Housing Models for Vancouver, and for 15 years operated Delve Consultants for Built Environments. From 1995 - 2000 he taught at the UBC School of Architecture where he supervised the Design/Build studio. During his time at UBC, he taught design studies abroad in Berlin and Prague and was a visiting studio critic at the TU in Dresden.

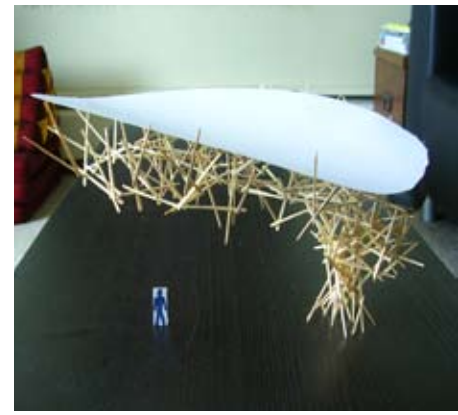
From 2004-2006 he curated the travelling exhibition for *Towards an Architecture of Conscience: The Work of Sandy Hirshen*, which has recently returned from a tour of several North American cities. He is personally responsible for emitting .3 tonnes of CO2 per year into the atmosphere, and has crossed the Pacific Ocean in a sailboat five times.

EDUCATION

| | |
|--|------------------|
| <i>UBC School of Architecture, Graduation with Honours, B. Architecture*</i> | 1988-92 |
| <i>Escuela TS de Arquitectura de Barcelona, Studies Abroad</i> | Jan - April 1990 |
| <i>UBC, Bachelor of Arts, Germanic Studies/Language</i> | 1981-85 |
| <i>*Masters equivalent. Please refer to letter on file in HR</i> | |

EMPLOYMENT

| | |
|---|------------------|
| <i>Assistant Professor, Design and Foundation</i> | Aug 2005 – Pres. |
| <i>Sessional Instructor, Design</i> | Aug 2002 – 2005 |
| <i>Instructor, Continuing Education</i> | Aug 2002 - 2005 |
| Also | |
| <i>Assistant Professor, GNW Campus/Learning City (UBC, SFU, ECU and BCIT)</i> | 2006/2007 |
| <i>Instructor, Continuing Studies, ECI</i> | 2005 |
| <i>Sessional Lecturer, UBC</i> | 1995-2000 |



Foundation Space Design 2008

1. TEACHING – 3 credits unless noted

2007/2008 - ECU

| | |
|---|-------|
| FNDT 108 F007 Creative Processes | 07/FA |
| FNDT 108 F009 Creative Processes | 07/FA |
| DSDE 300 S005 Directed Studies – Design (CSAF) | 07/SP |
| FNDT 129 S003 3D Design | 07/SP |
| FNDT 129 S004 3D Design | 07/SP |
| INDD 318 S001 Eco Design | 07/SP |
| DESN 101 S003 Designing with Space | 08/SP |
| SOCS 202 S001 Ecological Perspectives in Design | 08/SP |

Courses in progress

| | |
|---|-------|
| FNDT 108 Creative Processes | 08/FA |
| FNDT 110 Design 1 | 08/FA |
| DSDE 300 Directed Studies, Sustainable Regional Design Studio, <i>The Emily Car</i> | 08/FA |

Upcoming Spring 2009

| | |
|--|-------|
| ECU - SOCS 202 S001 Ecological Perspectives in Design | 09/SP |
| SFU (15 credits) – Undergraduate Semester in Dialogue Co-teaching with Janet Moore, SFU | 09/SP |

2006/2007 - ECU

| | |
|---|-------|
| FNDT 108 F007 Creative Processes | 06/FA |
| FNDT 108 F009 Creative Processes | 06/FA |
| INDD 318 F001 Eco Design | 06/FA |
| DSDE 300 S001 Directed Studies – Design (CSAF) | 06/SP |
| INDD 211 S001 INDD Core Studio 2 (with C. Blyt) | 06/SP |
| INDD 318 S001 Eco Design | 06/SP |
| INDD 413 S001 INDD Core Studio | 06/SP |

GNW Campus/Learning City

| | |
|---|-------|
| <i>Sustainability Assessment, CIRS, Part 1</i> RMES 500D (3 credits) Co-taught with John Robinson and Ray Cole, UBC. | 06/SP |
|---|-------|



Foundation 3D Design 2008

2005/2006 - ECU

| | | |
|--|-------|-------|
| DHIS 400 F003 Design Now | 05/FA | |
| FNDT 108 F008 Creative Processes | 05/FA | |
| INDD 318 F001 Eco Design (with R. Izdebski) | | 05/FA |
| SOCS 411 F001 Professional Practice | 05/FA | |
| CEID 226 S001 Introduction to Green Product Design | 05/FA | |
| CEID 122 S001 Basics of Architectural Design | 05/FA | |

GNW Campus/Learning City

Awareness and Action: Urban Sustainability, ASTU 400 - 6 credits 05/SU
 Co-taught with Rob Vanwynsberghe UBC, Janet Moore SFU, Keith Ross BCIT
http://www.learningcity.gnwc.ca/Action_and_Awareness.aspx

Green Building - 4 credits 05/FA
 Co-taught with Meg Holden, SFU, John Robinson, UBC, Donald Yen, BCIT
http://www.learningcity.gnwc.ca/Angles_on_Green_Building.aspx

Sustainability Assessment, CIRS, Part 2 RMES 500D - 3 credits 06/SP
 Co-taught with John Robinson and Ray Cole, UBC

Curricular Initiative & Course Development

2007/2008

- SFU Undergraduate Semester in Dialogue (With Janet Moore)
- Directed Studies, Sustainable Regional Design - The Emily Car Electric Vehicle Project
- Design 1 Foundation curriculum (With P. Mazzucca, C. Vincent, C Dobson and R. Izdebski)
- Sciences for Design (With Tom Becher and Charles Dobson)
- SOCS 202 Ecological Perspectives in Design (Required course in Design)
- Directed Studies, Campus Sustainability Assessment Framework, Part 2

2006/2007

- Directed Studies, Campus Sustainability Assessment Framework, Part 1
- FNDT 129 3D Design for Foundation
- DESN 101 Designing with Space for Foundation (with Roman Izdebski)



Foundation Creative Process 2007

2005/2006

- INDD 318 Ecological Design (with Roman Izdebski)
- INDD 409 New Materials in Design
- DHIS 400 Design Now
- Foundation, term theme of sustainability/Field Notes exhibition (With Susan Stewart)

2. SERVICE

2007/2008

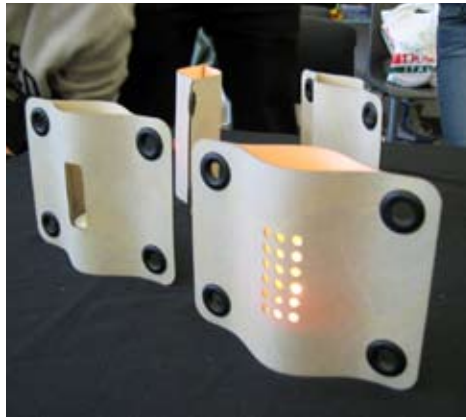
- Curriculum Committee (2007)
- Sustainability Working Group (SWiG)
- GNW Masters of Climate Change and Sustainability Leadership working group (With R. Cutler)
- Sustainability Practices Committee, 2008 (Sheila Wallace, Chair)
- Student Advisor (With Peg Campbell and John Wertschek)
- Foundation Calendar Jury, 2008
- Foundation Events Chaperone
- Photographer and organizer, Digital archive of Foundation student work
- MAA Thesis Jury, Sarah Hay (2006 – 2008), Spring 2008

2006/2007

- Sustainability Working Group (SWiG)
- Co-organizer SWaG – the Student arm of SWiG
- BC Working Group for Sustainability Learning in Higher Education (GNW)
- Graduation Committee
- Curriculum Committee
- Student Advisor (With Peg Campbell)
- National Portfolio Day
- Co-organizer, Foundation program term theme and exhibition (with Foundation faculty)
- Co-organizer, signing the International Environmental Talloires Declaration. (With Susan Stewart)
- Organizer, *Desired Futures Film Festival* to support Foundation sustainability theme
- Foundation Events Chaperone
- Photographer and organizer, Digital archive of Foundation student work

2005/2006

- ECI Curriculum committee



2ndYear Industrial design Studio 2007

- Sustainability Working Group (SWiG)
- Design Forums administrator
- Occupational Health and Safety Committee
- ECI Open House, 4 public workshops. Organized/presented graduation projects. (with R. Izdebski)
- Foundation Events Chaperone

Community Development

2007/2008

- Closing the loop. Invited speaker, jury comments
http://www.cradletocradle.nl/home/722_closing-the-loop.htm
- SFU Undergraduate Semester in Dialogue (With Janet Moore)
<http://www.sfu.ca/dialogue/undergrad/courses.htm#spring09>
- Vancouver art Gallery, FUSE: *Ecodensity Urban Design Charrette 2007*
In concert with Andrea Zittel's Critical Spaces exhibition, June 22, 2007.
<http://www.flickr.com/photos/9311951@N08/>

2006/2007

- External MA advisor, Lukas Armstrong, Masters of Env. Design in Arch., (2005-2007) U of C

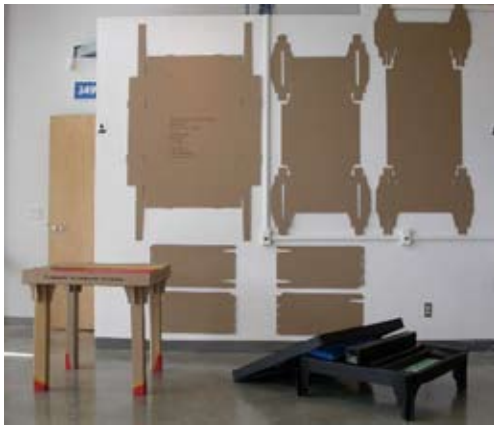
2005/2006

- CIRS Research Cluster A: Building Design and Operation
<http://www.cirs.ubc.ca/about/index.php>
- National Research Council, Supervision of Sarah Hay (IRAP) *ECI's Relationship with CIRS*.
<http://www.breavo.com/>

Professional Activities - Presentations

2007/2008

- Mulgrave Academy, *The Opportunity of Wealth* April 2007
- UBC School of Architecture, *Adaptive Laureates* Nov 2007
- Vancouver Art gallery, 30 Days of Sustainability: *Green Myths* April 2007
- Jewish Community Center, 30 Days of Sustainability: *Green Myths* May 2007
- Vancouver Art Gallery, FUSE. *Urgent Emergent Design Charrette* June 2007
- UBC Engineering Physics, *Engineering and Sustainable Design* March 2008
- Ministry of Education, Victoria BC, *Sustainability in Higher Education* May 2008



Graduation Project 2006

- ECU Foundation Forums, *AWiredWarmingWorld, Part 1* Sept 8, 2008
- ECU Foundation Forums, *AWiredWarmingWorld, Part 2* Sept 15 2008

Upcoming

- MAA Class presentation. *If Not Us, Then Who?* Oct 2008
- ECU Professional Practice Artist Forums, *AWiredWarmingWorld* Oct 2008
- ECU Foundation Forums, *AWiredWarmingWorld, Part 3* Nov 2008

2006/2007

- ECI Environmental Ethics (Carol Gigliotti), *The Ethics of Green Design* January 2006
- Guest Speaker, UBC Engineering, *Predicting the Present* January 2006
- ECI Interdisciplinary Forums, (D. Achiadi and R. Wallace), *Multiples* February 2006
- ECI Board of Governors (with R. Cutler), *Talloires Declaration for ECI* September 2006
- ECI Foundation Forums, *Predicting the Present 1* September 2006
- ECI Foundation Forums, *Predicting the Present 2* September 2006
- ECI Environmental Ethics, (Carol Gigliotti), *The Ethics of Green Design* September 2006
- ECI Research Presentation, *The Art of Sustainability* November 2006

2005/2006

- ECI Foundation Forums, *Predicting the Present* November 2005
- Curriculum Committee, *Regarding Sustainable Curriculum* October 2005.
- Foundation, Curator and presenter *Desired Futures Film festival* Fall 2006

3. RESEARCH

Intentional human activity is creating a rapidly warming world and a degrading biosphere. Canadians, per capita, are contributing to the destruction of the ecosphere faster than almost anyone else on earth. The Intergovernmental Panel on Climate Change (IPCC) reports that 2015 is the last year that the earth will be able to absorb net increases in carbon emissions. With this as a context, research is undertaken in the areas of design and education. Design research is aimed towards understanding and working to create the significant paradigm shift necessary for design practice to address the above concerns. This includes, but is by no means limited to the reduction of ecological impacts through design, sustainability assessment and life cycle analysis. Research related to education can be described as *learning sustainability teaching*. This also includes work on ECU's Sustainable Practices Committee, which makes institutional recommendations and proposals to the President for consideration. See Appendix 3.



Vancouver Art Gallery Ecodensity Design Charrette 2007

Awards + Grants

Streaming Emily, Feasibility research for online lecture series and video archive for ECU

2007/2008

ECU President's Research Fund - \$3000.00

(with Glen Lowry)

Ongoing Projects

- Interviews with *World Changers*, with Charles Dobson
- *The Sustainable Urban Living Collaborative Project: Cohousing for Vancouver*
- *Global Carbon Media Project*. Media campaign (Charles Dobson, Rethink)
- *Streaming Emily*. Creating online podcasts for ECU Speaker Series, courses and guest lectures (with Glen Lowry - see above)

Publications and Catalogues

Learning Sustainability Teaching, The Journal of Ecological Economics, 2008, vol. 64, issue 3, pages 521-533.

Meg Holden* (SFU), Duane Elverum (ECI), Susan Nesbit (UBC), John Robinson (UBC), Donald Yen (BCIT) and Janet Moore (SFU). *Principle Author.

<http://econpapers.repec.org/article/eeeecolec/default64.htm>

Toward an Architecture of Conscience: The Work of Sandy Hirshen, His Partners and Professional Colleagues

Traveling exhibition and monograph, UBC School of Architecture Monograph #4

<http://www.arch.ubc.ca/news/Sandy%20Hirshen/exhibition.html>

<http://www.mcgill.ca/architecture/exhibitions/2003-04/>

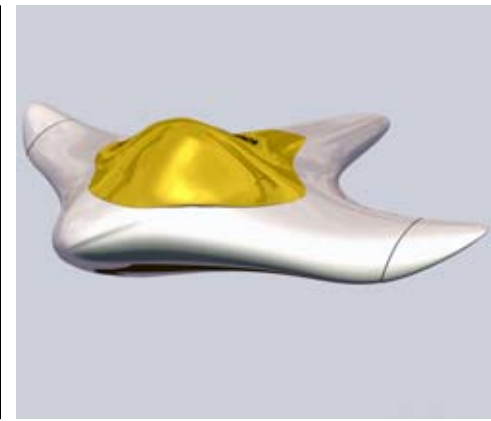
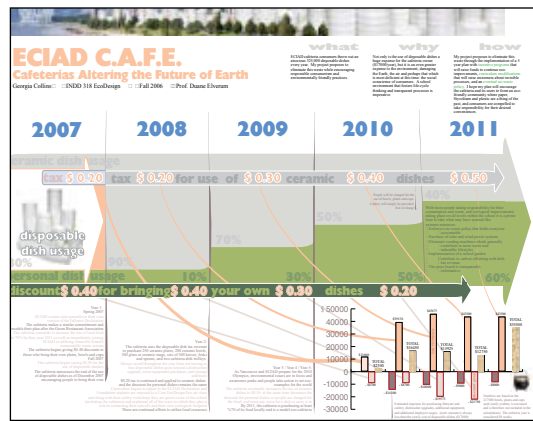
Interviews and Articles

2007/2008

Sim-City + Tetris = Architecture for the 21st century.

Newspaper article and interview. Tooth and Dagger, June 2007, Jessica Smith

<http://toothanddagger.com/story/read/66>



Sustainable Design 2006

Sustainability Education in BC - The Talloires Declaration at ECU.

Powerlines Radio Interview, Peter Love, May, 2008. www.conservationbureau.on.ca/rss/powerlines

Trail Leads Emissions Battle.

West Kootenay town is the first to have a comprehensive plan to tackle climate change. Newspaper article and interview. Amy Juschka and Melanie Kuxdorf. Special to the Sun, Saturday, April 26, 2008. <http://www.canada.com/vancouver/sun>

Another Failure on Climate Change

NYTimes. Readers comments, June 11, 2008

<http://community.nytimes.com/article/comments/2008/06/11/opinion/11wed1.html?s=2>

2005/2006

The Greenway

The Peak: Simon Fraser University. The Last Word - issue 10, volume 120 — July 4, 2005. Melanie Kuxdorf

<http://www.peak.sfu.ca/the-peak/2005-2/issue10/lastword.html>

Sustainability and Green Design, Vancouver Sun, January 14, 2006, Kim Davies (column)

ECU Committee Members

Susan Stewart

Deborah Shackleton

External Referees

John Robinson, Professor

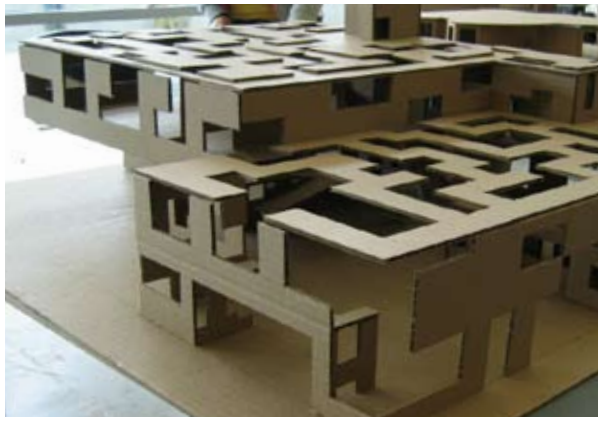
Institute for Resources, Environment and Sustainability

University of British Columbia

Tel: 604-822-9188

Email: johnr@ires.ubc.ca

Dr. Robinson is a teaching colleague on courses related to the CIRS project (Center for Interactive Research in Sustainability), green design and lifecycle analysis, as well as a co-author on a sustainability learning paper.



Introduction to Architecture, Continuing Studies, 2005

Ray Cole, Director, UBC School of Architecture

raycole@arch.ubc.ca

Tel: 604-822-2779

Dr. Cole is a former professor, long-time advisor and co-teacher in green design and life cycle analysis.

Janet Moore, Assistant Professor, SFU Undergraduate Semester in Dialogue

Tel: 604.268.7884

jlmoores@sfu.ca

Dr. Moore is a co-researcher and co-author on sustainability learning, as well as co-teacher with the upcoming 15 credit spring semester in the SFU Undergraduate Semester in Dialogue, "Designing the Future" (Jan. 2009)

Sandy Hirshen, Associate, Henriquez and Partners Architects

Tel: 604-687-5681

Email: info@henriquezpartners.com

Sandy Hirshen is the former director at the UBC School of Architecture. We have collaborated on various personal and professional projects including a 4-year design/build initiative at the School of Architecture, as well as the traveling exhibition documenting his architectural career, entitled "Toward an Architecture of Conscience".

ECU References

Randy Lee Cutler

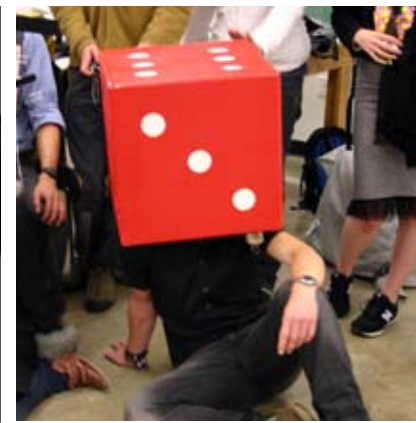
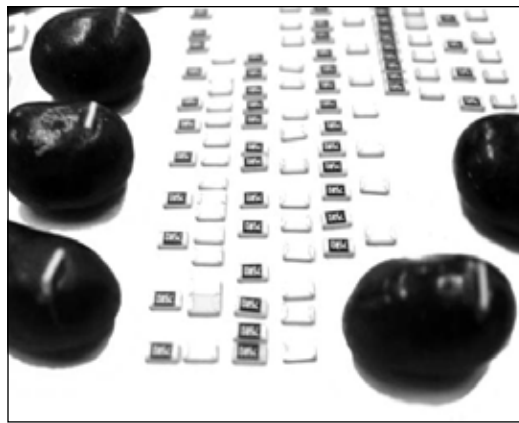
Dr. Cutler has been an advisor and mentor since my hiring at ECU in 2005, as well as a colleague in developing a sustainability culture at ECU. Dr. Cutler and I also contributed to GNW's combined sustainability MCASL degree (Masters of Climate Change and Sustainability Leadership)

Susan Stewart

As the Head of Foundation, Professor Stewart was a significant factor in my desire to teach in the area, and has provided guidance in developing foundation curriculum. She is also a continuing colleague in developing a sustainability culture at ECU.

Roman Izdebski

I am indebted to Professor Izdebski for inviting me to first teach design at ECU in 2002, and for providing ongoing guidance and support in the areas of design teaching and methodology. Since 2002, we have collaborated in coursework, pedagogy, studio critique, and the ECU open house design workshops.



Foundation Creative Process 2005

4. STATEMENTS

A Philosophy of Teaching Art and design

This is my 13th year of university teaching and my seventh year at Emily Carr. I have understood these years to be a continuous investigation into the relationship between the practices of teaching and learning. Certain values and beliefs have emerged from teaching at different levels and in different areas over this time, and these form the basis of my approach to students and the classroom. When I encounter students - regardless of level - I am aware that they are on a long journey and my class is one stop; they come from one place and head off towards another. Seen in this light, the class becomes an opportunity to try to give them something that they will want to take away. Travelers cannot take everything, but they will take what has been made to seem important to them, and what they feel they need for the next leg.

It is a common sentiment that art and design are basically different and this difference is somehow bred in the bone; that art is informed by the *self*, and that design is informed by the *other*. I propose that despite some minor differences - technical skills primarily - they are far more similar than different and both are meaningfully described by the desire to imagine. This desire is one of the main levers that students need to imagine worlds into being.

Skill and technique can also spark desire, but these are comparatively straightforward to teach and learn. One of the challenges of teaching today is that of helping students find an urgency and passion for their work that keeps desire burning because imaginative work means trying to manifest things that do not have names yet. You know that your grasp will fall short, and that inevitably, Rollo May writes, the price of the journey is often a kind of divine madness beset with insecurity and ambiguity.

How can this passion be found and released? I try to model it for students. In terms of my personal experience, the best teachers I have had were those whose passion and emotion revealed their conviction and character, showing the value of investment. I aim to show that if you trust the process of seeking enjoyment, investment inevitably follows. Often students need permission to undertake this search, so see my role as giving them license to begin, and I enjoy the energy-return when they find it.

Another objective in the classroom is to show that creative work can be personal, but I think the nature of personal work is often misunderstood. There is an important difference between work that is about yourself and work that is personal; I feel the way to create truly personal work is to make work that helps others feel more like a person. I've learned from ECU colleague John Wertshek that when



Foundation Creative Process 2007

you create work with this kind of meaning, you create work that the whole world will take care of. I hope that this demystifies and simplifies the creative process without diminishing the value of it, and is able to demonstrate, as Massimo Vignelli suggests, that form is the result of work, not the goal.

I am particularly interested in the relationships between art and design and sustainability, and the ways that students - and the university - can contribute meaningfully in a carbon-constrained world. This means showing students the value of creating work that matters to the atmosphere. We ask, what are the material implications of your work in an interconnected world? In what ways does your creative work affect the atmosphere? The classroom is a group and a network. This manifests as discussions, group work and collaborative approaches, but more significantly, I try to show that the classroom is an opportunity to do something together that no one of us could do alone. We solve the problem of learning together. Of all the things that students take to their next destination, this may be the most important.

Context for Research into The Art, Design and Sustainability

The recent report by the Intergovernmental Panel on Climate Change tells us that human activity is causing irreversible harm to the environment, and has shaped our world in ways that are beyond comprehension. The level of carbon dioxide and other greenhouse gases in the atmosphere now exceeds preindustrial levels by nearly 40 percent and is rising rapidly. This blanket of heat-trapping gases is already largely responsible for increasing the earth's average surface temperature by 0.7 degrees Celsius. If current fossil-fuel-consumption trends continue, average surface temperatures could rise by as much as 6.4 degrees by 2100, according to the Intergovernmental Panel on Climate Change. Even under the IPCC's most optimistic scenario, temperatures will still rise by 1.1-2.9 degrees before century's end. An increase of more than two degrees could have serious adverse impacts, including the extinction of many plant and animal species or even the cascading collapse of entire ecosystems. (*In Containing Climate Change*, Carter F. Bales and Richard D. Duke, Foreign Affairs, The Journal of US Foreign Policy and the Council on Foreign Relations, September/October 2008).

With climate change it's as if we're all in a car speeding towards a brick wall, but we are spending our time arguing about where to sit while the environmentalists and IPCC scientists in the trunk (Suzuki, 2007). To this I would add that our children are strapped to the grill and designers and engineers are fighting a deadline trying to make the car go faster. Meanwhile, our leaders are making it all legal. It is illusory to think that conventional approaches - energy savings, recycled content, hybrid technology or riding a bike - contributes in any real way to the sustainability of the ecosphere (Rees 2006). With ecosphere destruction growing by 3% per year, activities that simply attempt to reduce damage do nothing to create sustainability, not to mention accelerate it. As the context for my research, work is undertaken in the two areas of design and education.



Learning City Urban Sustainability Course, Central Valley Greenway, 2005 (UBC, SFU and ECU)

1. What is design for?

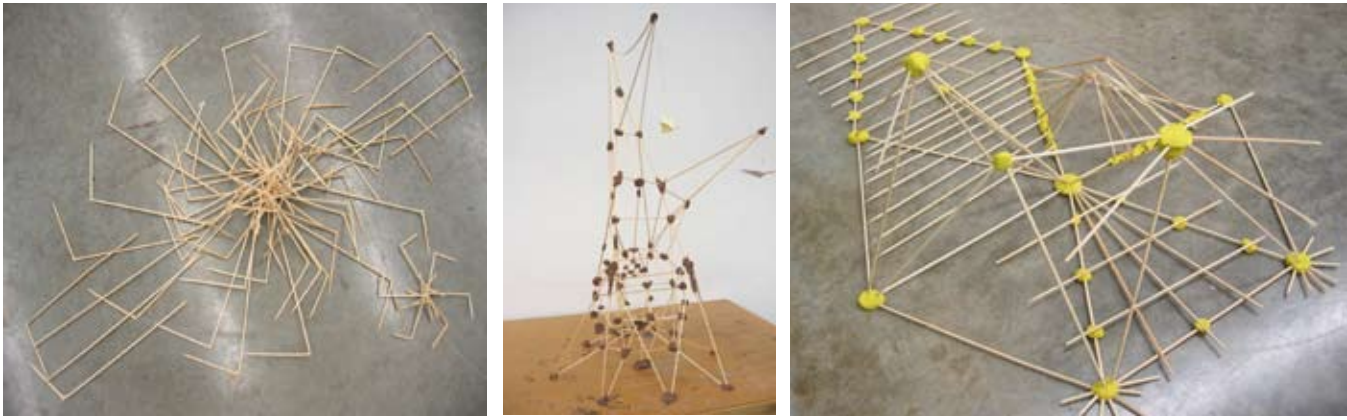
Design is supposedly an optimistic activity that integrates multiple issues in a unified response for betterment - for *improvement* - but it would be fair to ask whether it is actually doing this in our time: our built world is imagined by humans, but the sum of this imagination manifests itself largely as an unquestioned and increasing reliance on industrial systems that are leading to the decline of all living systems (Hawken 2005, Hansen, 2007). And we are profoundly wasteful: the average person in North America needs just about 2000 energy calories/day, but actually consumes some 200,000 calories during the business of daily living, most of it from coal, and whose consequences are mostly hidden from us. Our only real strategy so far has been to pay people to take oil out of the ground and then pray to god that they don't burn it (McKibben 2007). Given this, it seems clear that design might be considered as an undervalued lever in accelerating sustainability, and that the direct implication for designers is a compelling opportunity to create new behaviours.

My design research is therefore aimed towards two concerns: The first is the designed reduction of ecological impacts through sustainability assessment and life cycle analysis. An example of this research is the collaborative ecological design studio run with Inform/Bensen, where ECU students evaluated Bensen's top selling furniture pieces for design changes in order to lower environmental impacts. Students submitted a report documenting design suggestions for weight reductions, material substitutions and packaging alternatives. Another example of this research is the current Sustainable Regional Design directed studies collaboration between ECU and VEVA (the Vancouver Electric Vehicle Association). The first phase of this project has the goal of researching the feasibility for designing and building the *Emily Car* in time for the 2010 Winter Olympics. Students will complete an electric car conversion as part of the course.

My second research interest focuses on the designer as social agent. In a globalized consumer market, our unlimited mobility, inexpensive goods and endless choice is not necessarily a sign of wealth, it may be a sign of exploitation. When designers make decisions, they unleash immeasurable damage around the world through choices in materials, production, transportation and energy use. Seen in this way, design and consumption are political acts that can affect health and wealth around the world. An example of this research is the Sustainable Systems Ecodesign studio, where students examine the global network of an everyday object, with the aim of systems and object redesign.

2. What is education for?

Our reliance on industrial systems is *learned*, therefore education as well as design is implicated. Our educational institutions have encountered significant challenges acknowledging that we and our students are citizens in a rapidly diminishing ecosphere; that everything we imagine, study, and create is made possible by something that we are destroying partly by omission, and partly by habit and neg-



Course in Progress - Creative Process 2008, Pattern Assignment

ligence. Educational institutions contribute greatly to this because we prepare students to manage and recreate the systems that do the damage. This is not necessarily intentional, but it does not matter because it is arguable that most curriculum and policy in higher learning amounts to something John Ralston Saul describes as the defacto promise of increased destruction; higher education can be said to feed the system with voracious appetites for production and consumption. It is common to think of learning as good in itself but many of the things we learn, and much of what educational institutions model, help us create systems that unknowingly feed this monster (Orr 1991); a complex globalized system of production and consumption that provides our comfortable lives, but has significant hidden aspects and unintended consequences.

Education is valuable, but it never guarantees that we'll do the right thing - Elie Wiesel makes the point that the holocaust was designed by some of the most educated men in all of Europe (Orr 1991). It is arguable that the destructive capacity of our current industrial model is susceptible to the same charge because, in its present form, has the net effect of exerting a force opposite to that of sustainability. It seems reasonable to ask, is it enough that an education institution simply replicates itself?

Research into this question is focused in two areas: The first can be described as *learning sustainability teaching*, and attempts to re-imagining the academic classroom as an transdisciplinary project-based learning environment. The aim of this classroom is to address what Schoen describes as the common dilemma of *rigour versus relevance* confronting students and institutions in the 21st Century. One example of this is SOCS 202/Ecological Perspectives on Design at ECU. This required course attempts to broaden the role for designers in a rapidly warming world. For course details, format, methods and assignments, please refer to Appendix 1, 2008 course outline. Another example of research in this area is the upcoming SFU Undergraduate Semester in Dialogue course entitled "Design the Future", to be co-taught with Janet Moore. This 15 credit, 4th year course takes place within a term-long dialogue and real-world project environment that will explore the multiple dimensions of urban sustainability. See Appendix 2, 2009 draft course outline.

The second research interest is related to that of the educational institution itself, and asks how can we examine and address the ways our institutions understand and create sustainability. This work takes place partly within the Sustainable Practices Committee, which aims to undertake research and communication activities in the areas of operational, social, economic and ecological sustainability at ECUAD, with specific recommendations and proposals will be presented to the President for consideration. Our main and current focus is to propose actions for ECU that will meet the BC Government's mandate for carbon neutral government operations by 2010. See Appendix 3, Sustainable Practices Committee Terms of Reference.

STUDIO ASSIGNMENTS AND OUTCOMES

Design

1. *Laser (ID 2)*
2. *Container (ID 2)*
3. *EcoDesign (ID 3)*
4. *Graduation Project (ID 4)*

Creative Process - Foundation

1. *Ten Faces*
2. *Blind Drawing*
3. *Colour in the Shadows*
4. *Part to Whole: 2D Pattern*
5. *Part to Whole: 3D Form*

3D Design - Foundation

1. *Personal Object*
2. *The Verb*
3. *The Paper Creature*
4. *Body Extension*
5. *Cardboard Chair*

Architecture - Continuing Studies

1. *Introduction to Architectural Design*

Designing with Space - Foundation

1. *Intimate Space*
2. *Research: Origins of Architectural Pleasure*
3. *Public Space*

Collaborative Design - Foundation

1. *Shelter*
2. *Blocqueduct*

2nd Year Design Studio

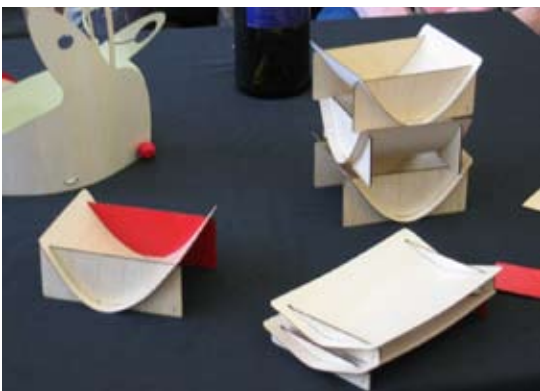
This second year Core Studio in design consists of a series of team-taught interdisciplinary streams offering exposure to key aspects (values, concepts and skills) of Communication Design and Industrial Design. Included are 2D, 3D and 4D design perspectives, such as: typography, photography, illustration, motion, interactivity, packaging, exhibition design, product, soft design, sustainable and eco design. Students engage in design process, research, analyze, design, present and evaluate ideas to meet required objectives through individual and group projects. Discussion and reflection help students make informed decisions about their personal and professional development. (with C. Blyt)

Assignment Example

Students are asked to design an object for a restaurant table setting. The object is designed to be laser cut from aircraft plywood, suitable for flat pack, and intended for manufacture.

Design

1. *Laser (ID 2)*
2. *Container (ID 2)*
3. *EcoDesign (ID 3)*
4. *Graduation Project (ID 4)*



Creative Process - Foundation

1. *Ten Faces*
2. *Blind Drawing*
3. *Colour in the Shadows*
4. *Part to Whole: 2D Pattern*
5. *Part to Whole: 3D Form*

3D Design - Foundation

1. *Personal Object*
2. *The Verb*
3. *The Paper Creature*
4. *Body Extension*
5. *Cardboard Chair*

Architecture - Continuing Studies

1. *Introduction to Architectural Design*

Designing with Space - Foundation

1. *Intimate Space*
2. *Research: Origins of Architectural Pleasure*
3. *Public Space*

Collaborative Design - Foundation

1. *Shelter*
2. *Blocqueduct*

Assignment Example

Working in teams of 2, students design a container that holds 2 disparate objects. Students use specific wood working techniques and material to create a form that unifies the 2 objects in some way.



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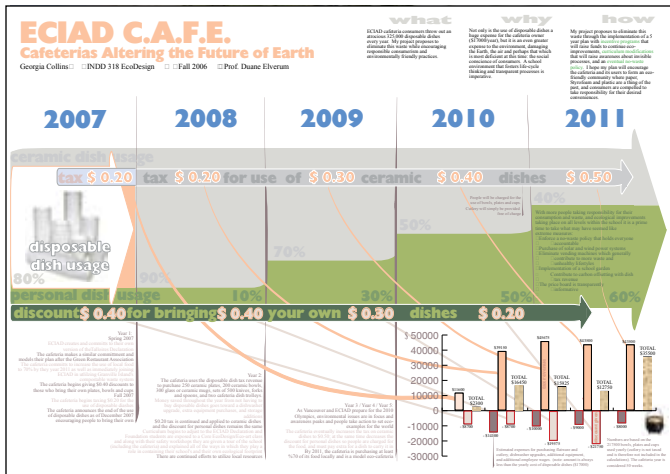
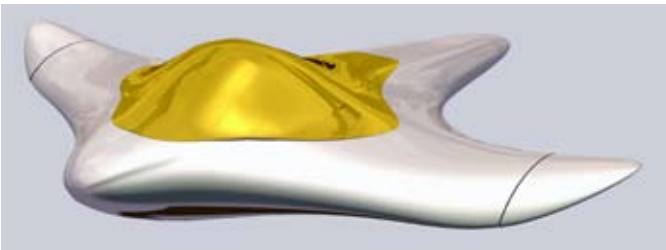
1. *Shelter*
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Ecological Design

This class is an extended discussion about making things in a globalized civilization. Students will learn about and apply the principles of sustainable systems to a major systems design project. The student brings this major project and 2 minor research projects to a high degree of resolution, illustrating and incorporating life cycle assessment, systems thinking and sustainable design strategies.

Assignment Example

For the final project, students are asked to map and redesign a common object/system in order to reduce environmental impacts.



Felt Wall
a common sense room divider



Felt Wall is a modular, responsible room divider, targeting residents of small office apartments. Designed for small spaces, Felt Wall makes living more comfortable by allowing the user to transform environments to suit specific needs such as bedrooms or home office partitions. Felt Wall suggests that users require less square footage to live comfortably. Through this, Felt Wall promotes high-density living and its true contribution to a reduction of ecological footprint. Felt Wall's diversity extends past its domestic applications as it can be used for trade shows and exhibition providing a unique, collapsible, easily transportable backdrop for any trade booth.

Felt Wall is an adaptable system. Its modularity permits growth and flexibility. Users can add or remove felt panels to heighten or shorten the wall, anticipating changing heights and circumstances and to turn optimizing the products life. Each felt panel can be individually repaired, cleaned, or in the worst case, replaced as needed. Felt Wall is shipped disassembled and engages the user in the final stage of the manufacturing process. Users develop a better understanding of the materials and production processes used and learn something about the manufacturing of the product they just purchased.

Felt Wall packs flat for shipping eliminating excessive packaging waste. The reduced shipping volume promotes an efficient transport model. Locally produced felt ensures efficient distribution of materials by reducing shipping distances. Felt Wall uses rectangular felt minimizing manufacturing waste. The number of materials and production methods used is minimal thus optimizing the manufacturing process. Felt Wall designed for assembly and adapts a Cradle-to-Cradle philosophy. When the wall reaches the end-of-life lifecycle it can be easily disassembled and the different materials can enter their respective recycling streams.

Participating in the assembly of Felt Wall gives the user a sense of accomplishment and creates an emotional attachment to the object. This relationship gives Felt Wall a humanistic quality and in turn adds value to the object. The felt is locally produced in Canada thus ensuring fair wages to all employees. Assembly instructions will be online in the form of animations to prevent users from simply printing off the directions. The uniqueness and originality of the animation will promote conversation among the users, as well as designers, animators, artists, students and other well-educators.

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Collaborative Design - Foundation

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Graduation Project

Devoted to the completion of the Graduation project initiated in the fall semester, this major workshop brings the senior design experience to a high degree of resolution. The student will illustrate and incorporate all facets of the I.D. curriculum to demonstrate a capacity to balance and integrate issues of process, innovation, production, and presentation.



Assignment Example

The graduation class asks students to integrate design learning into a single major project lasting one year. Students chose projects on the basis of personal interest, and are required to validate their work with technical expertise in the chosen area.



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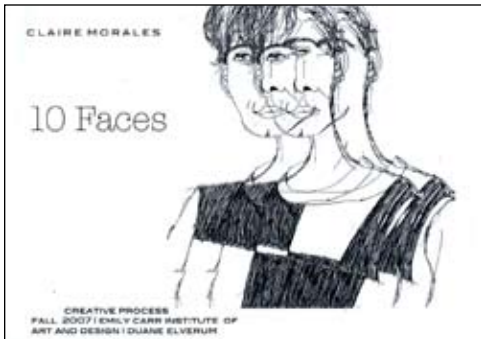
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Collaborative Design - Foundation

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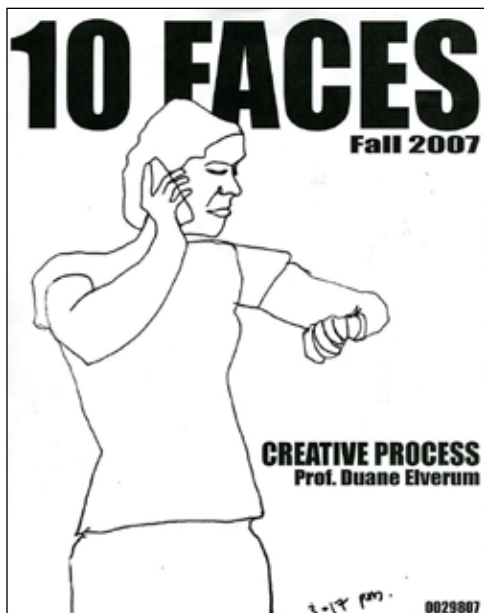
Creative Process

This course explores the realms of human imagination and creativity, drawing from personal and cultural fantasies, memories, and realities as applied to artistic and design practice. Students will develop an expanded awareness of contemporary and historical concerns, as well as a personal versatility and confidence in shaping, forming, activating, and influencing the sensory world. Lectures, workshops, discussions, and critiques of open-ended assignments expose the student to the basics of learning, researching, and producing.



Assignment Example

Presented with the idea that to draw is to know, students are asked to draw 10 faces while paying attention to shape and line as a way to capture essential character.



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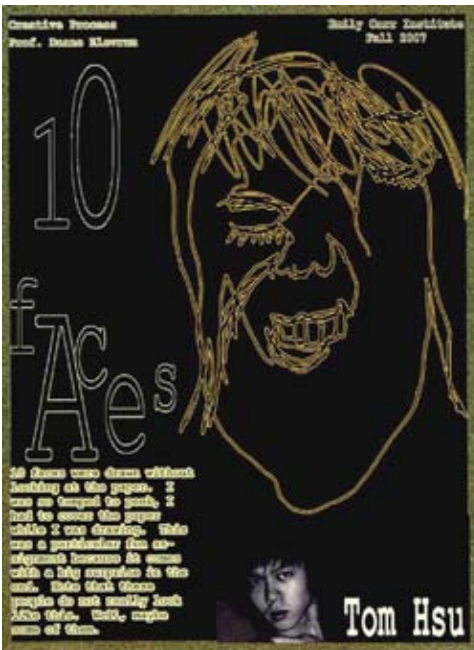
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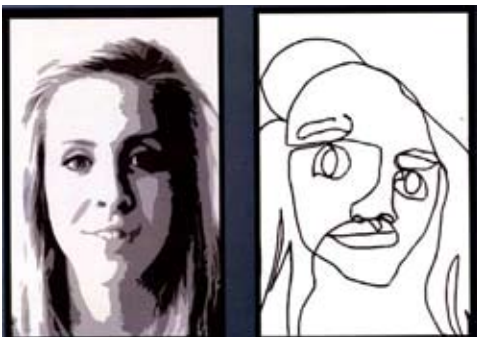
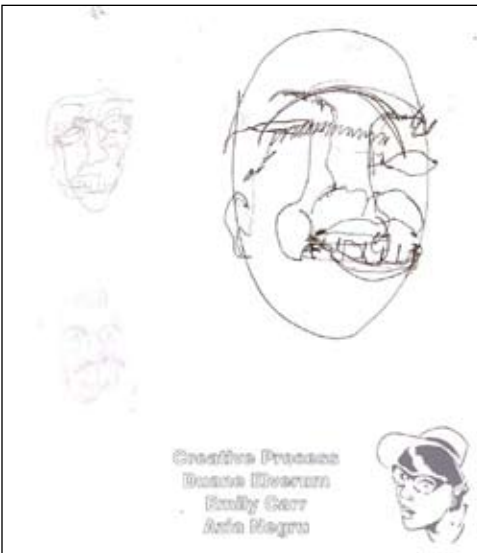
Collaborative Design - Foundation

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Assignment Example

Building on the 10 Faces assignment, students are asked to first study 10 faces and then practice blind drawing. The assignment reveals the potential of drawings to call on memory, intuition and trust: students will often unintentionally exaggerate characteristic features, producing surprisingly accurate and confident drawings, free of self-censure.



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Collaborative Design - Foundation

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Assignment Example

Shadows contain colour. To counter the tendency to see shadows as simply dark or gray, students are asked to find and photograph a shadow that contains colour. This assignment focuses on both observation and photographic skills.



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Assignment Example

Students are introduced to pattern as a tool in creative work. Using Illustrator (CS3), students are asked to draw a simple line figure. The figure becomes the basis for a complex 2D pattern that is characterized by part to whole relationships: strong centers, alternating repetition, boundaries, gradient, echo, deep interlock and ambiguity, levels of scale, and local symmetries.



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Assignment Example

Taking the ideas of Part to Whole into 3D, students explore the potential for pattern in a simple material to generate 3D forms.



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Collaborative Design - Foundation

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3D design

This course introduces students to the fundamentals of 3D, creative problem solving and the design process. Students will apply skills and knowledge to a range of assignments resolving 3D form, function and material, as well as exploring formal, informal and expressive problems, research process, critical analysis, concept development, visualization and model making



Assignment Example

As an introduction to 3D form, students are asked to present a chosen personal object, significant for its form.



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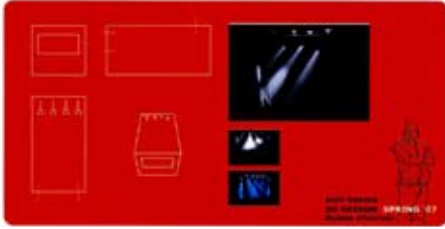
Designing with Space - Foundation

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Collaborative Design - Foundation

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illuminate



Assignment Example

With this assignment the class generates a list of verbs that describe various material actions. Without knowing the verb, the class is asked to suggest possible suitable verbs without knowing the generative verb.

The difference between the generative verb and the guesses is often substantial, demonstrates nuance available through form.



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Assignment Example

Students are introduced to the ways that 2D materials can be approached to create 3D form. In this assignment, students are first asked to generate 3 sketch creatures from paper. Presented and discussed, students are asked to choose one for detailed development.

The in-class workshop and subsequent assignment raise issues of spontaneous work, intuition and the possibility of overworking ideas.



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Assignment Example

Using collective research produced by the class, students are asked to conceive of a soft body extension that serves as a personal or social prosthesis for the everyday. The assignment foregrounds function and purpose, materiality, construction, modeling, prototyping, and use.



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Assignment Example

The cardboard chair is an energetic 3 hour design charrette. Using full sheet of corrugated cardboard, students have 3 hours to conceive, design and build a cardboard chair with a back that supports their own weight. The project asks for quick ideation, material testing and commitment to a plan.



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Introduction to Architecture

This Continuing Studies course introduces students to issues in architecture and design today, and is aimed at people interested in pursuing architectural studies, as well as those interested in exploring architectural ideas and design problems. Students design a building with specific site and program constraints.



Assignment Example

As the final project students are asked to design a small art school to a given program.



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Space

In this team-taught studio course students explore the elements and principles of spatial design, with an emphasis on understanding, visualizing and representing space through various methods of visualization and iteration such as drawing and modeling. Assignments consist of short topic-oriented exercises that provide a critical context for current and historical ideas concerning Space. (with R. Izdebski)



Assignment Example

Building on Edwards Hall's four dimensions of space as a starting point, students develop space at the scale of the personal, the intimate, the public and the social. In this assignment, students are asked to create a shared space for an intimate encounter involving shared food. Completed designs are presented as installations.



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Collaborative Design - Foundation

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Assignment Example

In preparation for the public space design assignment, students are asked to reflect on their “first” and their “favourite” public space. The research is presented and discussed to reveal some essential characteristics of public space. The shape, politics, history and scale of public space are discussed as factors in the understanding of public space.

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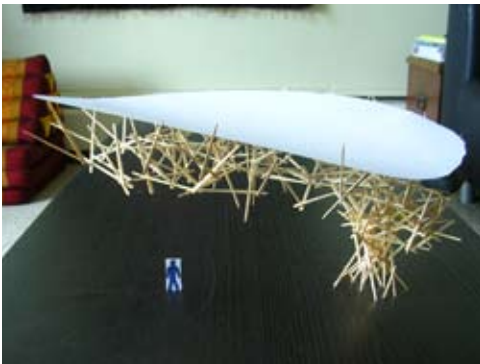
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Assignment Example

The creation of public space at the foundation level is a challenge, yet students demonstrate clear intuitive ideas of what constitutes healthy cities and active public space. This assignment asks that using only toothpicks as the modeling material, students design a street canopy for a block of Granville mall employing both sculptural and functional considerations to activate the new public space.

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Collaboration

Collaborative problem solving is an important part of creative learning in general and foundation course work in particular. The following two examples ask students to work in teams to solve a uncommon problem; student teams make decisions, develop strategies, delegate work and test ideas during a time-constrained charrette.



Assignment Example

Shelter is a collaborative workshop used on the first day of Creative Process to get students working together to solve a problem. In teams of 4, students are asked to collaborate to design and build a free standing shelter made only from newspapers and tape. The shelter must be self-supporting and be able to contain the entire team.

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Collaborative Design - Foundation

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Assignment Example

Blocqueduct is a design challenge offered to students in Design 1 and Creative Process classes; the class is a team that must solve the problem of moving a small ball across the class-room in three hours using only gravity and 3600 wooden blocks.

Appendix 1

SOCS 202 Ecological Perspectives on Design

Catalogue Description | www.ecuad.ca

This course offers the opportunity to study sustainability from a number of perspectives. Through an examination of specific contexts such as culture, society, economics, social justice, accessibility, technology, and the environment, students will gain a better understanding of the issues and needs as they relate to design practice and the consequences of design action or inaction relative to humanity, nature and culture. Assignments are research-based and integrate with studio activities.

Course Content

This year's report by the Intergovernmental Panel on Climate Change tells us that we have shaped our world in ways that are beyond comprehension, and that if we continue to live, work and design within the current narrow paradigm of an economy that grows at a rate of 3% every year, the result will be a global temperature increase from CO₂ emissions in the range of 1.4 to 6 degrees above preindustrial levels (IPCC 2007).

The IPCC, a panel of 2500 climate scientists, report that we have likely already committed the world to the 1.4 degree global temperature increase if not more, and importantly, that just a 2 degree increase creates positive feedback loops and a cascading collapse of eco systems leading to the acceleration of climate change towards a 6 degree warming without our help. The last time the world was 6 degrees warmer – the Permian Era – the only mammal alive was a kind of pig (Monbiot 2005). This means that on our current path of growth on a path towards a 1.4-degree temperature increase, the IPCC calculates that the world will likely be too hot for humans in just 100 years (Hansen, NASA 2005, 2006, 2007, Flannery, 2005, 2007).

The direct implication for designers and problem solvers is the urgent need for exploring new roles as social agents creating new behaviours through design. The question now becomes one of right education and right action. In the course we will explore the issues are we facing, and examine how we address them meaningfully in our professions and daily activities.

The IPCC is clear in stating that the urgency of climate change simply dwarfs all other concerns, because if we cannot wrap our heads around the ways our education and professions burn oil and put CO₂ into the atmosphere, there will be no other concerns (2007). This urgency creates the context for designers, and is the context for the course; this course will present a compelling case for design to contribute effectively to the largest social movement in history (Hawken 2006).

Course Method

Each of the first 4 classes combine to present an argument for designers as change management consultants – sometimes it is form and colour and message, sometimes it is a new paradigm. After the 4th week instructors present 2 short lectures, each on a central issue

that relates design and human intention to the global ecological crisis. Questions are posed to the class and discussed in short breakout sessions intended to focus and refine approaches to the main project.

The instructors provide extended office hours in the auditorium after each class during lunch and beyond. This time also serves as an opportunity for visitors to the class to join in discussions with interested students.

Learning Outcomes

At the end of the course students will:

- Be introduced the IPCC, climate science and global warming
- Understand the basis of sustainability related to the integrated issues of global ecology, sociology and economy.
- Understand 10 key sustainability challenges facing civilization, how they manifest in urban and rural settings, and their relation to design practices
- Have been exposed a range of readings relating course content to design
- Have a completed minor research project.
- Have integrated course content with an analysis of the major design studio project
- Have examined course ideas through writing and argument.
- Understand the importance of personal, collective and political action relative to design intentions and activities.
- Explored moral action (Singer) and values-based education (Orr et al.) in relation to conventional academic education models
- Explore the contradictions and dilemmas arising from multiple seemingly valid points of view surrounding climate change, design and human intention.
- Have been introduced to a global context for their work in other, more disparate coursework

The Major Project

In this class you'll have 1 major project. In order to get credit for the course you'll have to stop global warming. You can also get credit for the course, if in your attempts to stop global warming you fail trying. The assignment has 3 parts:

- I. Examine and design a personal behavioural change that reduce global warming;
- II. Communicate the story widely;
- III. Examine the political aspects of design and strategize mass social change.

The first step involves looking at your own behaviour and finding out which of these emit carbon, and designing implementing changes. The 2nd one involves telling people. The 3rd moves your change from the individual scale to the scale of society, which is what we, as designers, do by going to work every morning.

We will argue that as designers working in the 21st century our role is changing. Now it is clear that designers have a unique responsibility to think broadly about the implications of our professional actions. Designers are trained as systems thinkers and orchestrators who now, in a time of unique urgency, could arguable consider it a professional responsibility to implement ideas in the world and change behaviour in ways that matter to the atmosphere. This moves beyond designing just in 2d or 3, towards designing new behaviours. The course will provide a series of lectures running parallel to ongoing activities and discussions; these are designed to provide a context for the relationship between the ways design can address the urgency of climate change. Discussions and activities will also provide background for major projects.

The main project is intended to help students explore, develop and refine arguments that relate design to climate change and sustainability, as well as address the contradictions and dilemmas that inevitably arise in the presence of multiple points of view.

Evaluation Criteria

| | |
|--|-----|
| Attendance and Participation | 40% |
| Project proposals: | |
| Part 1 – Personal Behaviour and Design | 10% |
| Part 2 – Communication and Design | 10% |
| Part 3 – Policy, the Law and Design | 10% |
| Final Project | 30% |

Lectures

1 Learned Monsters and Skilled Psychopaths

Part 1: What is education for?

Part 2: Samurai Scholarship and other lessons for design in Pan's Labyrinth

Question: Why did you come to design school?

Reading for next week: Orr, Zerofootprint

This first class presents the course as an extended conversation about desired futures and human intention, where design can adopt a significant if not leading role in a time of urgency. This class introduces course themes, content, assignments, expectations and evaluation criteria. This class also introduces the role of education in sustainability. It proposes that education is one of the primary obstacles to sustainability when it trains us firstly to create and manage what we now know to be the engines of harm. In part 1 of this class we'll argue that we have entered into a time in which the social and political upheaval is as great or greater than at the time of the reformation (Franklin), and this will require a generation unlike any we have educated. We'll ask what education is for and argue that an education is no guarantee of right or moral action among the educated (Singer); the Holocaust, for instance, was designed by some of the most educated men in all of Germany (Orr). Part 2 presents a short history of environmental thought and an alternative model of action that prefaces design as a tool to generate new personal and political behaviours. This model has been developed by the Learning City and is the basis for core studio curriculum in GNW's new Sustainability Masters degree. The subject of 4 years research, it is to be published in the Journal of Ecological Economics in 2008.

2 Fire and Ice

Part 1: Carbon Footprint

Part 2: Design Experts and a Critique of sustainability guides (Thorp)

Question: What is the most useful thing taken from the introductory class?

Breakouts: What were the most difficult items to understand and calculate?

Reading for next week: Singer

This class examines global warming in detail. This past November the IPCC (Intergovernmental Panel on Climate Change) stated that current rates for CO₂ emissions will likely create an earth that is several degrees hotter by 2100. The last time the earth was this warm, humans were virtually extinct. In the next 40 years we will need twice as much energy as we now make, but can only produce less than half as much carbon. Part 1 of this class will explore the meaning and repercussions of this report, and ask what it will take for

these facts to sink in. Part 2 will explore the factors that have brought us to this point and examine the realities for designers and citizens in a carbon-constrained world.

3 **Famine, Affluence and Morality**

Part 1: Stories of Immorality

Part 2: Needs, Wants and Mere Desires

Question: Summarize Singer in one sentence.

Breakouts: What stories do we tell ourselves in order to maintain our unsustainable behaviour.

Breakouts: What are our universal human needs?

Reading for next week: Either Quammen or McDonough

This class explores Singer's argument for moral action as presented in Famine, Affluence and Morality, as well as the dilemma of balancing personal interests and the common good. This class introduces the idea that we should act ethically whether the world is ending or not, and these actions in themselves may create the emergent property we have come to think of as sustainability. Part 1 will present the challenges and examples of balancing individual desires with common good. Part 2 will present Max-Neef's argument for universal needs.

4 **The Role of Democracy**

Part 1: Voting for Change

Part 2: Universal Needs in Design

Question: In a democratic vote, what should the winning percentage be?

Breakouts: Voting on universal needs.

Reading for next week: Either Quammen or McDonough

This class explores design strategies for behavioural change. Politics is important because it is where the difficult choices are made about living in an imperfect world. On one hand, goes the plot line of the Matrix; it is useless to argue over details because we can't change anything; the goal is simply a consciousness of desire, and a desire for consciousness. On the other hand, Gandhi tells us that the Ganges was once only a drop of water; the individual drop is powerful in combined company towards a single action. Individual decisions are most useful when used as seed-instruments of mass social movement and civil action. The first argument says if change your light bulbs you will change the world because personal knowledge is the path to enlightenment. The second says if you change your leaders you will change the world because this is the way to achieve speed and scale of change. We'll argue for a third way, that personal behaviour must be matched with civil action. This class is devoted to examining collective action towards social change.

5 **The Main Project**

Part 1: Project Areas

Part 2: Design Methods and Group Work

Breakouts and discussions

Reading for next week: Rees

This class revisits the intentions of the main project in lectures and breakout groups to discuss and strategize approaches. Part 2 argues that good design is easy: Fail fast, fail early, fail often, and fail forward (Dobson), but it is also easy to solve the wrong problem. We'll argue that design thinking is an undervalued lever in sustainability, and apart from its successful association with objects and style and luxury, it is also perhaps the one system that humans have developed that is sophisticated enough to deal with the transdisciplinary scale and complexity of the challenges we face in the coming years.

Feb 5

Emily Talks Speaker Series: Bill Rees (Required)

William Rees has a PhD in population ecology and is known around the world as the originator of ecological footprint analysis. He is a Fellow of the Post-Carbon Institute, as well as having received the Senior Killam Research Prize. He has been recognized as one of British Columbia's top "public intellectuals. His team won the City of Barcelona Award for their project called Inhabiting the World, and in 2006 he was elected to the Royal Society of Canada

6 Nature and I are Two

Part 1: Natural Systems

Part 2: Permaculture as Adaptation

Reading for next week: Hawken

It has become clear that we suffer from a compulsive nature deficit disorder. People in BC can instantly recognize and provide details on more than 1000 transnational corporate logos, but can't identify 10 of the nearly 1 million local plant species. The purpose of the environment is to generate diversity and recreate life; this is the foundation of all human experience and activities, yet the business of daily living in the 21st century is bringing about the decline of all living systems. How can design be intelligent and provide for our needs while regenerating the biotic capacity of the environment? This class will introduce the concept of nature, and propose that future of design will play out on the field of natural systems. We'll argue in specific ways how living systems are in decline, in part, because of our design work so far. Part 1 introduces the multiple and complex factors that have created a failed relationship between human activities and natural systems, and in part 2 we will present examples of design that integrate with natural systems and move beyond sustainability towards a regenerative design.

7 Reading week

Reading for next week: Pollen

8 No True Beauty without Decay

Part 1: Food

Part 2: Dirt is not Dirty

Reading for next week: Elverum

This class explores the issues of food relative to designers.

9 **To consume: v. to destroy, as by fire**

Part 1: Eating Yourself Thin

Part 2: Shopping Distractions (Toys)

Reading for next week: Design For the other 90%, and 78 Questions.

This class examines consumption as a worldwide phenomenon. Robust national economies and high levels of consumption are directly responsible for global warming, diminishing resources and the decline of living systems. Proponents of conscientious consumption claim that we can buy ourselves a better world and protect the environment at the same time. Critics point out that this is like driving with the brakes and accelerator on at the same time. They also say that green products are profit driven marketing strategies that mask the familiar engines of harm and that green consumption hides a serious danger, similar to the way that diet foods have contributed an epidemic of obesity. Part 1 presents the paradox of green consumption. Part 2 examines implications and strategies for design to address consumption.

10 **The Opposite of War is Justice, not peace**

Part 1: Secret vs. Social Agents.

Part 2: Design for the other 90%

Reading for next week: Ralston-Saul

Does design depreciate or enrich people and communities? What are the responsibilities of immense wealth? What is equity? In this class we'll argue that design is inseparable from politics and that the future of design lies within what Paul Hawken has identified as the largest social movement in history. This movement aims to correct the social, ecological, and political failures of the past century and rejects the failed logic of a globalized economy. It is about reclaiming the public and the common wealth. In part 1 of this class we'll argue that the goal of design in terms of society can - and needs to - strengthen communities, provide access to choice and power, and distribute wealth equitably. We'll examine the relationship between design and society and ask why most of only ever design for 10% of it. In part 2 we'll present design work for the other 90%, asking what is the capacity of design to equitably distribute wealth and choice?

11 **Deliver Us From Finity**

Part 1: Globalization: The defacto promised of increased destruction

Part 2: Design 3.0

Reading for next week: McDonough

This class introduces the concept of globalization. What is society for, and how could a sophisticated worldwide system of democracy and capitalism that once promised more for everyone fail so systematically? It has failed to distribute wealth, failed to protect the environment, and failed to protect communities and society. The myth that big business is good for all has collapsed, and although the supply of monies is larger than at any point in history, social services are being gutted worldwide; the gap between those with wealth and those without is growing; those with wealth can get it more easily, while those without wealth fall further behind; the dream of a globalized economy is living nightmare for 90% of the earth's population, and for those us who benefit from a globalized economy, the world is being quickly privatized. In part 1 of this class we'll explore how globalization's continued

claim of more for everyone is the defacto promise of increased environmental destruction and conflict. Where does our continued faith come from and why does design participate so willingly? In part 2 we'll present the key issues for designers working in a globalized economy.

12 **Is the perfect the enemy of the good?**

Part 1: Waste and efficiency as design failures

Part 2: Regenerative Design

Reading for next week: Monbiot

While recycling, improved energy conservation, material efficiencies and the lowering of environmental impacts generally are important transitional strategies in sustainability thinking, they must evolve far past the point of simply creating less bad behaviour to creating behaviour that is measurably good. To date this is far from the case. Experts agree that the best green design and sustainable technologies haven't been able to keep pace with the destruction created by a growing economy. So far even our best design work increases the rate of decline in all living systems through habitat destruction, CO₂ in the atmosphere, toxins in the ocean, toxins in our body, and depletion of renewable and non-renewable resources. Does this have to be the case? Part 1 of this class examines the strengths and weakness of typical sustainable design strategies. Part 2 explores design paradigms that move beyond sustainability towards regenerative strategies.

13 **Love Miles**

Part 1: Mobility

Part 2: Architecture, the city and the rural.

This class examines issues of mobility. One of the largest contributions to atmospheric carbon comes from how we move ourselves around. Additionally, any savings we make in atmospheric carbon are wiped out 10,000 times every time we step on a plane and log our love miles (Monbiot). If we are to reduce emissions, our philosophy of mobility needs a redesign on every level. In part 1 of this class we'll argue that the biofuels, fuel efficiency and hydrogen strategies don't even begin to create the CO₂ savings necessary from transportation. In part 2, we'll present strategies and examples from design and other fields that address and redefine mobility in meaningful ways. Part 2 explores mobility as a factor of, urban planning and the built environment. Architecture accounts for approximately 1/2 of our carbon emissions and 1/2 of our energy use. The potential savings to be found in the way we design and move in and between our cities is significant. In part 1 of this class we'll present issues in the design of sustainable cities. In part 2 we'll examine and critique the sustainability strategies at work in Vancouver and other cities.

14 Class 14 is set aside for project discussions and preparation

15 **Final Class**

Project Presentation and Hand-in format to be announced.

Appendix 2

Designing the Future: Spring 09 Undergraduate Semester in Dialogue. Simon Fraser University, Harbour Center

Janet Moore and Duane Elverum
(September 1, 2008 draft version)

Janet Moore, PhD

Assistant Professor
Undergraduate Semester in Dialogue
Simon Fraser University- Harbour Centre Campus
Tel: (778) 782-7884
Email: JLMOORE@sfu.ca

Duane Elverum

Assistant Professor
Emily Carr University of Art and Design
1399 Johnston Street
Vancouver BC. V6H 3R9
Canada
Email: elverumd@eciad.ca
604.844.3800
www.eciad.ca/~elverumd

Linda Bannister

Course Administrator,
Undergraduate Semester in Dialogue,
Simon Fraser University at Harbour Centre
3332-515 West Hastings Street
Vancouver, B.C. V6B 5K3
778-782-7893
ugsid@sfu.ca
Janet Moore and Duane Elverum
Designing the Future – Spring Undergraduate Semester in Dialogue 2009

Course Description

We will use Metro Vancouver to explore the multiple dimensions of sustainability as they relate to the city, region and the global context. “Designing the Future” brings together writers, policy makers, and leading thinkers, as well as designers, artists, business and community leaders to examine how the decisions we are making today are significantly altering the region. We will use a systems approach to pose some fundamental questions examining urban sustainability:

- Do we really know what sustainability is?

- What ideas shape the way we currently live?
- What ideas are the most important for living on the planet - in and out of cities?
- What is sustainable urban development for the 21st Century?
- Do our conceptions of urban systems (water, energy, transportation etc) predispose us to unsustainability?
- How do we understand and balance competing forces in order to turn visions for the future into reality?
- How do we move forward with hope and optimism?

Our Intention

- To communicate the spirit of concentrated conversation among equals and promote the type of deep listening that is the essence of dialogue
- To encourage interdisciplinary public assembly and dialogue that provides a unique environment for learning and an unusual resource to stimulate social progress
- To create an environment that encourages mutual understanding between diverse perspectives, melding science with the social sciences and humanities, students and academics with community leaders.

Course Themes

Three overriding themes will guide and shape the semester's dialogue, including:

1) Systems and Sustainability

- Do we really know what sustainability is?
- Whose future are we talking about?
- What is sustainable urban development for the 21st Century?

Concepts

- The built environment
- Demographics and Density
- Developers and Development
- Development strategies -how does development actually work in our city?
- Systems - waste, water supply, water quality, land use/food, air quality, transportation, security, housing, jobs

2) Imagination and Design

- What ideas/memes/hopes shape the way we currently live?
- What ideas are the most important for living on the planet - in and out of cities?
- Does our conception of urban systems (i.e. water, energy, transportation etc) predispose us to unsustainability?

Concepts

- Appropriate/Sustainable Design
- Role of technology and new media
- New systems; material flows, goods vs services, history vs future, city vs region etc
- Futures Thinking / Backcasting

3) Creating Social Change

- What are your greatest concerns for the 21st century?
- How do we move forward with hope and optimism?
- In what ways can individuals and communities create positive social change?

Concepts

- Strategies and Plans – eg. Ecodensity, Cohousing, Permaculture
- Policy Change
- Political Action
- Personal and Social Change
- Dialogue and Action

Course Delivery

The course is delivered via a combination of dialogue with the faculty members and guest speakers, field investigations, readings and problem-solving assignments and workshops.

Location and Timing

The course's primary activities will occur on SFU's Harbour Centre Campus, HC 3050, except for field trips and specialized events. Course activities occur Monday thru Friday 9:30-3:30 with a break for lunch, but there will be occasional evening and/or weekend activities. We will also be interacting with Emily Carr students and will attend some events at the Emily Carr Campus on Granville Island.

Course Activities and Assignments

A variety of readings, class exercises, individual and group assignments and field investigations are used to achieve the goals of this course. Depending on the context, students will conduct these dialogue related activities either individually, in small groups and/or as part of the entire class. The activities include:

Field Trips

A number of field trips will occur during the semester. Groups of students will be asked to organize the transportation and events for each trip.

First Paragraph - Writing for a Public Audience

Conducted during the first week of the course, each student prepares an opening paragraph related to a specific course concept or theme. The paragraph is intended to be the 'lead' (100 words) for the op-ed assignment. Working collaboratively, each paragraph is individually reviewed and edited by its author and the course faculty members. The assignment demonstrates effective approaches to giving and receiving feedback and constructively supporting one another in writing situations.

Growing the Story

Commencing the first week of class and conducted later in the semester, this assignment involves initially building a process for class work, then learning how to engage and facilitate dialogue. It begins with a hypothetical scenario concerning a controversial development issue, and is revisited a few weeks later. Elements of this assignment include:

developing and presenting a skit demonstrating how the scenario might progress, using the principles of dialogue covered in earlier sessions. The assignment demonstrates the importance of understanding how individuals and diverse groups interact when adversarial compared to dialogue-based processes are used to explore issues. Assignment details will be provided on the day these exercises begin, but note that the "growing the story" exercise will involve a 24 hr assignment requiring evening work.

Reflective Journal

Students prepare an ongoing journal of personal reflections/observations concerning how

the values, approaches, and experiences of the course provide insights into their personal and professional growth. These entries will not be read or graded, although we hope you will share some of your observations with the faculty and the class.

Reflections on Dialogue Preparation

Students submit 'reflections on dialogue' (~one page in length) once every two weeks. Intended to strengthen writing capabilities and capture key Reflective Journal entries, these summaries are to be shared with the class at appropriate points during the course.

Individual and Social Change

A three part assignment that connects sustainability with a personal behaviour change, community mobilization and political action and social change will make up a major assignment for the course. Details will be discussed in class.

Power In - (To be integrated with assignment on Individual and Social Change)

Students identify and interview five people they consider key influencers shaping and driving an important sustainability issue. For example, students interested in ecodensity might interview city councillors, developers, real estate agents, planners and homeowners to understand the range of perspectives on this issue. The overriding intent is to determine "how the world works," (e.g. who wields real power on an issue, the dynamics of reaching consensus or conclusion, and the factors that encourage or inhibit progress). Students report back on their interview findings in an oral presentation format to be decided by the class.

Daily Newspaper Op-Ed

Students will prepare an Op-Ed (opposite the editorial/opinion-editorial) piece (750 words) which presents an especially important message that emanates from the course content. This assignment has both an oral presentation and a written component. Initially, students will meet in small groups to discuss their individual Op-Ed verbally and receive feedback, followed by a similar session with the entire class. Each student will produce a 750-word article to submit as an opinion/commentary to a major Canadian newspaper.

Group Project - Facilitating a Public Event that Encourages Dialogue

Students organize, advertise, facilitate, run and report on a public event that encourages public dialogue about the future of the region. The goal is to engage an audience with a topical issue in a manner that is probing, thought provoking, and non-didactic, in a manner that invites discussion. The event will take place in the public realm and students will be responsible for writing up a report outlining results and insights of the process.

Final Individual Project

Students produce a 3000 word manuscript or equivalent in another media, suitable for inclusion in an online book. Upon completion, this portfolio will be distributed to the general public, community organizations and the media. Students submit a proposal and pitch their idea to the class midway through the semester. These projects can be of various breadth, depth and type. Projects prepared in other dialogue courses range from stunning video documentaries, eloquent essays, creative art forms, to factual newspaper / magazine articles.

Appendix 3

ECU Sustainable Practices Committee

Reporting to the ECUAD President and President's Executive Committee, the Sustainable Practices Committee will undertake research and communication activities in the areas of operational, social, economic and ecological sustainability at ECUAD. Specific recommendations and proposals will be presented to the President for consideration. The Committee is comprised of interested members of the ECUAD community and currently includes:

Administrators/ Staff:

Sheila Wallace, Director of Information Services (chairperson)
Janice Wong, Facilities Manager
Ron Barron, Assistant Manager of ITS
Technical Services Dept. representative

Students:

Brodie Kitchen
Alex Achtem
Desmond Wong
Alex Hass, graduate student

Faculty:

Duane Elverum, Design & Foundation
Ingrid Koenig, Foundation
Susan Stewart, Associate Dean, Integrated Studies
Christopher Hethrington, Visual Communication

Duties and Responsibilities:

- a) Advise the President and Executive Committee on the development and execution of a campus sustainability plan to increase levels of sustainable activity in areas such as energy and resource conservation and alternatives, waste reduction, and minimizing environmental impact.
- b) Propose actions that will meet the BC Government's goal of making all government operations Carbon Neutral by 2010, including universities.
- c) Propose measurement tools for assessing ECUAD's progress in increasing sustainability.
- d) Encourage increased awareness of sustainability issues among faculty, students, staff and administrators and encourage departments and individuals to set tangible sustainability goals and objectives.
- e) Encourage dialogue with faculty and students regarding incorporating sustainability as a theme throughout the curriculum.
- f) Communicate and publicize ECUAD's successes and plans for sustainable actions to the community, the Ministry and the public through such instruments as the ECUAD website and publicity materials.