Appendix 2

ACADEMIC GREEN TRANSECT (AGT) QUESTIONNAIRE

This a tool for examining how an Organization is performing with regards to its central purpose. While a post-secondary institution has to be mindful of its buildings and facility operations its central role is that of an academic organization. The tool below allows participants to examine this role and is a model for constructing similar tools for other public and private organizations regardless of their identity.

Prepared by the Office of Eco Seneca initiatives (OESi) at Seneca College - Toronto, Canada

***"Yale and other schools are being spurred to action by a catch-22: the environmental moves they make on campus matter far less than what they teach their students—and what their students teach the world."*Carbon Neutral U by Andrew Blum, Metropolis magazine February 2008**

(http://www.metropolismag.com/story/20080220/carbon-neutral-u)

INTRODUCTION

The "Academic Green Transect" (AGT) is a process to support distinct academic programs of a higher learning institution in recognizing and enhancing their environmental performance. It arises from a continuing awareness of, on the one hand, severe threats to climate stability, bio-diversity and access to clean water and air which have an impact on all of us, but also to the continuing integration of environmental imperatives within economic development. The latter claim is an opportunity for us to ensure that our academic programs are relevant to an emerging workplace reality, are ethically responsive, and are attuned to a world in which students are already engaged and in which they will one day be leaders.

This document is produced, distributed, and managed through the Office of Eco Seneca initiatives (OESi) at Seneca College with the expectation that internal and external users will provide feedback and assist in its resilient evolution as a document supporting academic initiatives for embedding sustainability ideas, greening concepts, and restorative development measures in the next generation of practitioners, innovators, and decision-makers graduating from organizations of higher learning.

It has the very practical benefit of demonstrating to students that we identify with their current concerns and for their future world; it allows us to nimbly assess our processes of academic delivery for those which contribute to a reduced carbon footprint; and it provides an opportunity to review the materials we use, the transportation obligations we impose on our academic delivery, and even the paradigms and contextual settings which our programs use as models.

By environmental performance we are not limiting our discussion to commonly understood Environmental Management Systems (EMS) which examines resource consumption (i.e. water, energy), waste generation and measures to improve efficiency and address noncompliance, though these are essential elements of the larger enterprise which informs this review.

The AGT focuses on how environmental awareness and practices are, or could be, academically incorporated in our various programs. It looks beyond sharing insights as to how individual programs can examine their environmental impact, by suggesting ways they might integrate, within their program, an environmental perspective, regardless of the program's content. It provides a foundation for each program to determine its own means of increasing environmental knowledge by introducing "greener", more environmentally progressive approaches.

The following document outlines the components within the AGT. We stress however that this is a work in progress and will be refined as new insights allow all of us to sharpen our examination of this opportunity and develop additional tools.

We appreciate the participation of those early innovators who test and assist us in refining this process.

METHODOLOGY

There are 15 areas the AGT examines.

- Embedding an "eco" appreciation in all program/subject outcomes
- Faculty preparation/staff attitudes
- Materials/tools/resources used in program
- Placement strategies for graduates
- Recruitment strategies for prospective students and the messages communicated by the institution to the prospective higher learning audience be those foreign trained credentialed professionals, college/university graduates, or with high school and elementary level students
- Transportation of staff/students to/from a campus; program requirements
- Classroom environment defined in terms of program logic
- Alternative learning strategies such as e-learning, videoconferencing, correspondence
- Building/campus performance as a function of program impact
- Lifestyle expectations
- Alumni engagement
- Contextual learning, particularly for programs perceived to have a damaging environmental impact
- Program engagement in related public conversation and leadership initiatives – management, faculty, support, students
- Paradigms on which programs are based
- Overall impression of the initiatives/actions within an individual program.

Each academic program area should construct, on a transect and with associated commentary where requested, the current environmental perspective within the program by marking an "X" in the appropriate box, based on the following criteria:

* Towards an improving level of environmental performance (+1),

* Towards a declining and negative impact (-1) or,

* A neutral/unsure impact (0).

Score	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
+1															
0															
-1															

Figure 1: Academic Green Transect marking scale

Each of the 15 items should be pointed by the academic area itself. It is recognized that many elements of performance in a program may always have some significant negative impact, but that opportunities exist to enhance performance in other areas of a program (and thus buy, as it were, credits from that performance to offset any negative impact). By making positive net contributions to environmental performance, a program can thus more actively and intentionally engage in the broader restorative process for our built and natural assets.

The Academic Green Transect (AGT)

"Restoring the World Through Knowledge and Student Success".

The following are categories of the AGT with associated questions and examples that may be considered when deciding a value on the transect marking scale.

1. Embedding an "eco" appreciation in all program/subject outcomes

Eco appreciation reflects the convergence of ecological and economic perspectives within the teaching and learning imperatives of a higher learning institution.

- Are green/environmental issues incorporated in a program?
- Does the program provide information or resources that convey green/environmental practices?
- Are there any stereotypical views towards green/environmentalism in a program? If so, please describe with examples if possible.
- How would a program move beyond a naïve "tree-hugging" perspective to one in which environmental imperatives are embedded in a program's contribution to economic development?
- Are there potential connections or linkages with other programs, i.e. between technology and business?

Examples:

- What opportunities exist internally? Concordia University has a student initiated Sustainability Fund. The Quebec government matches the funds generated. Projects include Green House Gas reduction, and reducing paper usage.
- Greening the University of Guelph: "From the President's Window", describes efforts taken toward sustainability. Those interested in helping the University can donate to "Energy Conservation Fund". Contributions are matched by the University.
- Green bursaries and scholarships in support of environmental performance.

2. Materials/tools/resources used in program

- Do the materials/resources currently used promote a "greener life cycle or greener outlook, or reduced environmental impact"? Please describe if possible.
- Could a program move towards a "cradle to cradle" re-use of materials rather than the current "cradle to grave" perspective?

> *"Cradle to cradle" perspective describes products or systems whose apparent waste products can be used as inputs for other products or systems. In essence, there is no longer such a thing as waste.*
>
> *"Cradle to grave" perspective describes products that have reached their end of life use and then are discarded without finding an alternative purpose.*

- Can materials/tools/resources be handled differently to increase their lifespan? (Increasing their lifespan can reduce the amount of waste generated.)
- Are there any barriers to using green materials/tools/resources? If so, can these barriers be overcome through a green procurement policy?
- Can a program develop funding models such as life cycle/ long term cost benefits that can be adopted as strategies to fund environmental improvement?

> *Lifecycle Assessment investigates the environmental impacts of products or services through their creation, their use, and their end of life. It determines the environmental impacts of a particular product or service and the financial opportunities for amortizing such costs more evenly throughout the entire life cycle.*

3. Placement strategies for graduates

- Are there any strategies in a program which aim to create a strong network of progressive, environmentally conscious partners who can recruit graduates or provide co-op opportunities for current students?
- Are there any strategies in a program that exist or are in development which aim to engage public/private enterprise to develop opportunities for students to act as green consultants for small to medium sized businesses, or public jurisdictions, regardless of the program or field?

4. Recruitment strategies for prospective students and the messages communicated to the prospective higher learning audience be those foreign trained credentialed professionals, college/university graduates, or with high school and elementary level students

- Can a program effectively and legitimately market its role in creating a "green collar" economy work force? Please provide examples if possible.

> *Green Collar economy work force describes jobs that will increasingly have an explicit environmental perspective within the totality of the product or service offered.*

- Can a program legitimately attract the next generation of green collar students and workers?
- Does the program conform to the institution's perspective on environmental issues by reflecting this direction in its program?

Examples:

- Opportunities for participating in events associated with Earth Day, World Water Day, United Nations Decade of Sustainable Education, etc.

5. Transportation of staff/students to/from a campus; program requirements

- How do the majority of staff and students travel to a campus?
- How does a program effectively manage its demand side transportation obligations? *(Demand considers the range of alternate transportation, or non-transportation, options available to meet a certain need as opposed to an increasing supply of the prevailing single-use car preference.)*
- What strategies does a program have for discouraging one person automobile travel while encouraging measures such as car pooling, car sharing, bicycling, walking and public transit?
- If staff and students need to drive to a campus, can a program develop an environmental offset program? *Environmental offset programs allow one to purchase credits (i.e. carbon credits) from specialized organizations that will counter the environmental impacts their daily activities produce. The revenue gained from the sale of credits is invested in programs that benefit the environment, such as tree planting. One example is purchasing credits to offset the pollution generated by driving a car.*
- Does a program examine other modes of program delivery which reduce the transportation obligation?

6. Classroom environment defined in terms of program logic

- Has the potential for innovation and research in reducing a program's environmental impact in the classroom been examined or implemented, such as day-lighting college classrooms to reduce energy consumption?
- Given the way in which building systems are increasingly communicating with each other is there potential to reduce the demand for the use of, for instance, heating, because of the functional use of the classroom, i.e. a computer lab which generates considerable heat.
- Are appliances and other pieces of electrical equipment turned off when not in use, or is this considered, but not functionally possible?

7. Alternative learning strategies such as e-learning, videoconferencing, correspondence

- Does a program require students to attend a campus for lectures?
- How many courses in a program currently use other forms of interactive technology?
- Can videoconferencing, on-line learning support, etc. be expanded or optimized for instructors and students to improve the learning experience?
- Are there teaching approaches that should, or have to be retained, even though they might have negative environmental impact?
- What environmental offsets might be created to reduce a program's negative environmental impact?

8. Building/campus performance as a function of program impact

- Is the campus in which a program is located aware of its environmental impact? Does the campus have an environmental management system (EMS) or appropriate set of environmental standards and obligations? Is there an institutional EMS? If not, is the program an advocate for such, either at the campus or institution-wide level?

  Environmental Management System (EMS) details how an environmental policy will be executed through the areas of its organizational structure including responsibilities, practices, procedures, processes and resources.

- Are there ways that a program can enhance or enrich its surrounding natural environment, or the facility within which it is located?
- Can future campuses adopt LEED or alternate (BREEAM) standards?

LEED (Leadership in Energy and Environmental Design) and BREEAM (British Research Establishment Environmental Assessment Method) are green building standards that aim to improve a building's performance by being constructed or retrofitted in a way that takes into consideration various parameters such as energy usage, pollution generated, land use implications, materials and resource consumption.

Examples:

- Can organic waste generated from programs be diverted for composting and biofuels generation? Collège de Rosemont in Montreal is a leader in this area. Collège de Rosemont created and implemented an integrated environmental management plan for the waste generated from its facilities. They collect paper, cardboard, ferrous metals, plastics, batteries, waste.

- UBC Community Scale Biodiesel Production: They reduce the volume of waste that would normally be landfilled by collecting organic materials and creating biofuel from them. This exercise was extended to the neighboring community as a district waste management and green energy program.

- University of Winnipeg, New Green Campus: The campus is built to meet the gold LEED green building standard. It creates more space at the university by linking to the main campus via a green corridor. Some of the features of the campus are grey water collection for flushing toilets, the collection of wind power and solar energy to run the building, locally-produced and sourced materials to reduce energy costs in shipping and an innovative and creative design.

9. Faculty preparation/staff behaviours

- What perspectives/biases do staff (management, faculty, support) have and are they in agreement or in conflict with green/environmental views?
- Can staff be engaged to support and refine this process?

Examples:

Tools such as digital storytelling, Enquiry by Design, Future Search, and Charrettes are used in place-based environmental initiatives to authentically engage all participants, and may have relevance to academic settings especially those in which labour/management challenges are significant.

10. Lifestyle expectations of the higher learning community, students etc.

- What kinds of lifestyle expectations do students have for themselves when they complete a program?
- What kinds of lifestyle expectations are being taught or modeled to students during their course of study?
- Do students view themselves as living in an extraction economy world or a restoration economy world?

Extraction economy is one in which the function of the economy is to continuously deplete, demolish, or replace built or natural assets, at no net gain, and usually some significant loss, and not enhance the quality of these assets for future generations.

Restoration economy is one where the function of the economy is geared towards activities that restore, regenerate, and enhance natural and built assets. They might even replace an asset as long as by so doing it helps preserve something even more valuable or provides for the adoption of newer, cleaner, or more efficient technology.

11. Alumni engagement

- Does a program allow students and alumni to engage in dialogue and learning on green matters?
- Does a program encourage alumni working in an environmentally restorative manner to come back to the institution for guest lectures on their experiences in the industry? Is there specialized course work with students in restorative development areas of study?

  Restorative Development primarily describes a mode of development that increases the health or value of existing assets without (or with minimal) destruction of other assets, or one which embeds in new development (i.e. resource extraction, new building construction etc.) the seeds, as it were, for eventual restoration.

Examples:

- Alumni can work along with, or mentor, students on case study projects in their field of expertise in which environmental imperatives are embedded within the economic development process of their industry.
- Green Conferences in each academic program area - various programs can be encouraged to invite their alumni to provide seminars on how their respective industries are becoming environmentally aware. This can be a Program/Campus/Institution wide event!

12. Contextual learning, particularly in areas with an acknowledged environmental impact, i.e. tourism, aviation, golf course technician

- In a program perceived as particularly damaging to the environment? Is there a shift towards "green consciousness"?
- If there is no shift, is change possible? Is there outreach with industry to improve this situation?

Examples:

- Innovative thinking such as "browning" golf courses, using flight simulators, marketing eco-tourism, planning green events.

13. Program engagement in public conversation and leadership related to environmental initiatives, by management, faculty, support, and students

- Is the program involved in any community redevelopment projects in greening?
- Does the program remove barriers between communities and the Institution?
- Does the program promote socioeconomic and environmental enhancement within an eco-equity perspective?

  Eco-equity is concerned with providing benefits such as employment, public health, and those of an emerging green economy to all sectors of society but particularly for those in stressed neighbourhoods and communities.

Examples:

- Partnerships with United Way, Unions engaged in such issues, etc. to assist in skills development (green skills) for urban areas.
- Green Skills, Australia - Green Skills is an innovative organization that develops and manages projects that assist all levels of the community to effectively implement the community's vision for a sustainable future – "Since 1989, Green Skills has been operating a diverse range of environmental sustainability

programs in metropolitan and regional areas. Its work integrates project management, training and employment programs across a wide range of industries."

14. Paradigms on which programs are based

- Are there approaches/paradigms/unchallenged points of view entrenched in a program? Do these contribute to, or suppress, environmental enhancement?
- In order to graduate from a program are students required to take courses in environmental studies?

Examples:

- Opportunities for integrated environmental projects -> Projects which combine various related and unrelated disciplines that work towards greening the natural and built environment. An example can be restoring an underutilized or degraded section of a campus. The restoration project would draw upon the expertise and skills of various disciplines throughout the institution. Each of the disciplines would be able to understand how their respective tasks fit in with others in a grander environmental/greening project.

15. Overall impression of a program's environmental performance

- What is your overall impression of the initiatives/actions in environmental enhancement currently underway in a program and add any questions/comments you may have about the AGT?