

## AC 1 Academic Courses

### Université Laval's Sustainability Curriculum: Offering and Inventory

#### Introduction

Over the past five years, Université Laval has undertaken a major project to recognize, valorize and promote sustainability curriculum in classrooms across every department and faculty. Stemming from the office of the Vice-Rectorate, an inter-faculty committee, the Advisory Committee on Sustainability Education, was created in 2012 to undertake this mandate.

#### Method

The committee identified five key competencies in sustainability (Wiek et al, 2011) which could be adapted to fit courses and programs across the campus. These are core competencies that students must develop to be adequately equipped to understand and address these issues. Therefore, even courses that do not relate directly to socio-environmental issues can contribute to our collective resolution ability by developing the skills necessary to cope with these crises.

Based on this framework, the committee devised a 15-minute questionnaire which allows professors to self-evaluate to what degree their course integrates these themes. This method produces a level of granularity previously unattainable in the university setting. Rather than simply a binary "Sustainability Course" demarcation, Laval's method places courses along a continuum to express not just which aspects of sustainability are addressed, but also the degree to which those key competencies are developed. Ultimately, Sustainability courses are designated as either "Awareness", "Introductory" or "Advanced" courses.

To be considered a "Sustainability Course," the course's curriculum must be identified by the teaching professor as significantly developing at least one of these competencies. If it does, the professor then identifies it as a "Awareness" course (creating an initial awareness of the issue), an "Introductory" course (sensitizing and providing a preliminary study) or a "Advanced" course (sensitizing, introducing and critically analysing the subject).

Course	Name	Description	# of Sections	Level	Department	4 Key Competencies				Integration into Sustainability
						Systems Thinking	Anticipatory	Normative	Strategic	
ADS	1905	Éducation milieu interculturel	3	Undergraduate	Administration scolaire	2, 2, 2	2, 0, 0, 2	1, 2	2, 1, 0	Awareness
AGC	1001	Microéconomie appliquée	1	Undergraduate	Agroéconomie	2, 3, 3	2, 0, 2, 2	0, 1	2, 1, 1	Awareness
AGC	2001	Econ. ress. natur. & environn.	1	Undergraduate	Agroéconomie	2, 2, 2	3, 2, 2, 1	2, 1	2, 2, 2	Introductory
AGC	4003	Comm. agroalim., inst. intern.	1	Undergraduate	Agroéconomie	1, 1, 1	1, 0, 1, 1	2, 0	2, 2, 2	Advanced
AGC	7001	Ruralité et sous-développement	1	Graduate	Agroéconomie	3, 3, 3	3, 2, 2, 3	2, 3	3, 3, 2	Advanced
AGC	7005	Gest. dével. agricole et rural	1	Graduate	Agroéconomie	2, 3, 2	2, 1, 1, 2	1, 1	3, 1, 2	Awareness
AGF	6002	Socioéc.-culturel agroforest.	1	Graduate	Agroforesterie	3, 2, 2	3, 2, 2, 2	1, 2	2, 3, 2	Advanced
AGF	7001	Agroforesterie tempérée	1	Graduate	Agroforesterie	2, 2, 1	2, 1, 2, 1	1, 1	1, 1, 2	Awareness
AGN	3101	Gest. agroenvir. entreprises	1	Undergraduate	Agronomie	2, 2, 2	3, 3, 1, 2	2, 2	3, 2, 2	Advanced
AGN	7900	Comm. & innov. agric., rurale	1	Graduate	Agronomie	1, 1, 1	1, 0, 1, 1	1, 1	1, 1, 0	Awareness
AME	6007	Parcs et réserves écologiques	1	Graduate	Aménagement du territoire	3, 3, 3	3, 2, 2, 3	1, 3	3, 3, 1	Advanced
AME	6008	Gest. environn. milieu rural	1	Graduate	Aménagement du territoire	3, 3, 2	3, 3, 2, 3	2, 2	3, 2, 3	Advanced
AME	6021	Ecologie et aménagement	1	Graduate	Aménagement du territoire	2, 2, 2	3, 3, 2, 2	1, 1	2, 1, 1	Introductory
AME	6025	Planif. urbaine.: contraintes	1	Graduate	Aménagement du territoire	2, 2, 2	3, 2, 1, 3	1, 2	2, 3, 3	Awareness
AME	6043	Gest. ecol. espèces envahiss.	1	Graduate	Aménagement du territoire	2, 3, 2	2, 3, 0, 2	1, 2	3, 2, 3	Advanced
AME	6045	Cadre inst. québ. aménagement	1	Graduate	Aménagement du territoire	2, 2, 1	2, 2, 2, 2	0, 2	1, 0, 1	Introductory
AME	6053	Séminaire: eau et territoire	1	Graduate	Aménagement du territoire	2, 3, 2	3, 2, 1, 2	2, 2	2, 2, 2	Advanced
AME	6057	Stratégies d'intervention	1	Graduate	Aménagement du territoire	2, 2, 2	0, 0, 1, 1	0, 1	1, 2, 2	Awareness
AME	6058	Santé publiq. aménag. territ.	1	Graduate	Aménagement du territoire	2, 2, 3	2, 3, 2, 2	2, 1	2, 3, 1	Awareness

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						Systems Thinking	Anticipatory	Normative	Strategic	
AME	6059	Mise en oeuvre / transp. dur.	1	Graduate	Aménagement du territoire	2, 2, 2	2, 2, 2, 2	2, 2	1, 1, 2	Advanced
AME	6060	Dév. terr. : diagn. gouv. pr.	1	Graduate	Aménagement du territoire	2, 2, 2	1, 1, 1, 1	0, 1	1, 2, 2	Awareness
AME	6062	Sécurité civile et amén. terr.	1	Graduate	Aménagement du territoire	2, 2, 1	3, 3, 1, 1	2, 2	3, 3, 2	Advanced
AME	6063	Villes en reconstruction	1	Graduate	Aménagement du territoire	2, 2, 2	3, 3, 2, 2	1, 2	3, 2, 2	Advanced
AME	6064	Act., part. publ., amén. terr.	1	Graduate	Aménagement du territoire	3, 3, 3	2, 1, 2, 2	2, 3	3, 3, 1	Introductory
AME	6601	Essai-laboratoire amén., dév.1	1	Graduate	Aménagement du territoire	3, 3, 1	2, 1, 1, 2	2, 1	3, 3, 3	Advanced
AME	6602	Essai-laboratoire amén., dév.2	1	Graduate	Aménagement du territoire	3, 3, 1	2, 1, 1, 2	2, 1	3, 3, 3	Advanced
ANT	1501	Anthropologie des Amérindiens	1	Undergraduate	Anthropologie	3, 3, 3	1, 2, 3, 2	2, 3	2, 3, 2	Advanced
ANT	2307	Dossiers autochton. contempor.	1	Undergraduate	Anthropologie	1, 1, 2	1, 1, 1, 1	1, 2	1, 1, 1	Awareness
ARC	1008	Aspects humains	1	Undergraduate	Architecture	1, 1, 1	1, 0, 0, 1	0, 0	1, 0, 1	Awareness
ARC	2001	Architecture et environnement	1	Undergraduate	Architecture	3, 3, 3	3, 3, 3, 3	2, 2	3, 1, 2	Introductory
ARC	6033	Design urbain: concepts, méth.	1	Graduate	Architecture	3, 3, 3	3, 3, 2, 3	1, 2	2, 2, 2	Advanced
BIO	0150	Biologie générale	5	Undergraduate	Biologie	2, 1, 2	2, 0, 0, 0	0, 1	0, 0, 0	Awareness
BIO	1150	Les Animaux d'expérience	1	Undergraduate	Biologie	2, 2, 3	3, 2, 1, 1	3, 3	2, 2, 2	Introductory
BIO	1910	Écologie et pollution	1	Undergraduate	Biologie	3, 3, 3	3, 3, 3, 2	3, 1	1, 1, 0	Introductory

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						Systems Thinking	Anticipatory	Normative	Strategic	
BIO	2202	Mammalogie	1	Undergraduate	Biologie	2, 1, 1	2, 1, 1, 1	0, 0	2, 1, 1	Awareness
BIO	2901	Phytopathologie	1	Undergraduate	Biologie	2, 2, 2	2, 1, 1, 2	0, 2	2, 1, 2	Introductory
BIO	2903	Lutte contre ennemi de plantes	1	Undergraduate	Biologie	2, 2, 2	2, 2, 1, 2	1, 2	2, 1, 2	Advanced
BIO	3201	Gestion et conservation faune	1	Undergraduate	Biologie	2, 2, 1	1, 1, 1, 1	2, 0	2, 2, 2	Advanced
BIO	4100	Génét., conserv. biodiversité	1	Undergraduate	Biologie	2, 2, 1	1, 0, 0, 0	1, 0	2, 0, 0	Awareness
BIO	4900	Ecologie et environnement	1	Undergraduate	Biologie	3, 3, 3	3, 3, 2, 3	1, 2	2, 2, 2	Advanced
BIO	4901	Évolution et biodiversité	1	Undergraduate	Biologie	2, 2, 2	1, 1, 1, 2	1, 2	2, 0, 0	Awareness
BIO	6901	Ecologie, environn.: actualité	1	Graduate	Biologie	3, 3, 3	3, 2, 2, 3	1, 2	3, 1, 1	Advanced
BVG	7044	Réactions défense des plantes	1	Graduate	Biologie végétale	1, 2, 1	0, 2, 1, 1	0, 0	1, 0, 0	Awareness
CHM	1005	Chimie des élém. groupes s, p	1	Undergraduate	Chimie	1, 1, 1	1, 1, 1, 1	0, 0	2, 1, 0	Awareness
CHM	2000	Chimie organique II	1	Undergraduate	Chimie	1, 0, 0	1, 1, 0, 0	0, 1	1, 0, 0	Awareness
CHM	4300	Chimie industrielle	1	Undergraduate	Chimie	2, 2, 1	3, 3, 2, 2	1, 1	2, 2, 2	Introductory
CNS	1006	Consommerisme, persp. consom.	1	Undergraduate	Consommation	2, 2, 2	2, 1, 1, 1	1, 2	2, 1, 0	Awareness
COM	2300	Introd. relations publiques	2	Undergraduate	Communication	2, 2, 2	3, 2, 1, 1	2, 2	2, 3, 3	Awareness
COM	2301	Démarche et moyens de relation	2	Undergraduate	Communication	1, 1, 1	1, 1, 0, 1	0, 1	1, 1, 1	Introductory

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						Systems Thinking	Anticipatory	Normative	Strategic	
COM	4150	Comm. interculturel. internat.	1	Undergraduate	Communication	1, 1, 3	2, 2, 1, 1	1, 2	1, 1, 0	Awareness
CTB	1903	Mes finances personnelles	1	Undergraduate	Comptabilité	2, 1, 2	2, 2, 1, 0	2, 2	0, 1, 1	Introductory
CTB	3112	Comptabilité dével. durable	4	Undergraduate	Comptabilité	2, 2, 2	3, 2, 3, 3	1, 2	2, 2, 3	Advanced
CTB	6099	Écocontrôle, gest. coûts env.	1	Graduate	Comptabilité	3, 3, 3	2, 2, 1, 2	1, 1	3, 3, 3	Advanced
CTB	6118	Expertise compl., dével. dur.	1	Graduate	Comptabilité	2, 2, 3	2, 2, 2, 3	1, 3	2, 1, 3	Advanced
DDU	1000	Fondements du dével. durable	3	Undergraduate	Développement durable	3, 2, 3	3, 2, 2, 2	1, 3	1, 1, 1	Introductory
DDU	1200	Patrimoine, développ. durable	1	Undergraduate	Développement durable	3, 3, 3	3, 3, 3, 3	3, 3	3, 3, 3	Introductory
DDU	1300	Mes habitudes de vie, ma santé	1	Undergraduate	Développement durable	1, 0, 1	2, 2, 0, 1	0, 1	1, 0, 0	Awareness
DDU	1301	Mon équilibre alimentaire	3	Undergraduate	Développement durable	3, 1, 1	3, 3, 1, 1	0, 2	1, 0, 2	Awareness
DDU	1302	Mon mode de vie actif	3	Undergraduate	Développement durable	1, 0, 0	1, 3, 0, 3	0, 1	1, 0, 3	Introductory
DDU	1303	Mon stress sans détresse	3	Undergraduate	Développement durable	2, 1, 1	2, 2, 2, 2	1, 2	2, 0, 1	Awareness
DDU	2000	Aménagement durable du territ.	3	Undergraduate	Développement durable	2, 2, 2	2, 1, 1, 1	3, 2	2, 2, 1	Sensibilisation
DDU	2100	Reflex. enjeux dével. durable	3	Undergraduate	Développement durable	3, 3, 3	2, 3, 3, 2	2, 3	3, 3, 2	Advanced
DID	7029	Éd. env. dév. dur., péd. crit.	1	Graduate	Didactique	2, 2, 1	2, 2, 1, 1	2, 2	2, 2, 2	Introductory
DRT	1721	Intr. droit env., dév. durable	2	Undergraduate	Droit	1, 1, 0	1, 1, 0, 1	2, 2	1, 1, 0	Introductory
DRT	1901	Introduction générale au droit	3	Undergraduate	Droit	3, 3, 2	3, 3, 3, 3	3, 3	3, 3, 3	Advanced
DRT	2551	Droit de l'environnement	1	Undergraduate	Droit	2, 2, 2	2, 2, 2, 1	2, 2	3, 3, 2	Awareness
DRT	2900	Droit urbanisme, amén. territ.	1	Undergraduate	Droit	2, 2, 2	2, 2, 2, 1	2, 2	3, 3, 2	Awareness

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DRT	2905	Législation forest., éthique	1	Undergraduate	Droit	2, 2, 3	1, 0, 0, 1	3, 3	1, 2, 1	Awareness
DRT	3902	Droit de l'arpentage	1	Undergraduate	Droit	2, 2, 2	1, 1, 2, 1	2, 2	2, 2, 2	Awareness
DRT	6078	Essai	3	Graduate	Droit	2, 2, 1	2, 2, 2, 1	2, 1	2, 2, 1	Advanced
ECN	1000	Principes de microéconomie	6	Undergraduate	Économique	1, 1, 1	1, 1, 1, 1	0, 1	1, 1, 1	Awareness
ECN	1110	Économie du développement	1	Undergraduate	Économique	2, 2, 2	1, 1, 1, 1	0, 0	1, 1, 0	Awareness
ECN	1120	Économie du Québec	3	Undergraduate	Économique	2, 3, 0	3, 3, 3, 0	0, 3	3, 3, 0	Advanced
ECN	1140	Énergie, probl. econ. intern.	1	Undergraduate	Économique	2, 2, 2	3, 2, 3, 3	1, 1	1, 3, 2	Introductory
ECN	1150	Économie de l'environnement	1	Undergraduate	Économique	2, 1, 1	1, 1, 1, 1	2, 1	1, 2, 2	Introductory
ECN	6951	Dév. durable, ress., environn.	1	Graduate	Économique	3, 3, 3	3, 3, 3, 3	2, 3	3, 3, 3	Advanced
EDC	7011	Reussir études universitaires	2	Graduate	Éducation	0, 0, 1	0, 0, 0, 0	0, 1	0, 0, 0	Awareness
ENS	1000	Sciences et société	1	Undergraduate	Enseignement secondaire	2, 2, 2	2, 1, 1, 1	1, 1	1, 2, 1	Awareness
ENV	1010	Fondements conservation enviro.	1	Undergraduate	Environnement	3, 3, 3	3, 1, 1, 3	1, 3	3, 3, 2	Advanced
ENV	1015	Champs profess. conservation	1	Undergraduate	Environnement	2, 1, 1	1, 2, 1, 0	1, 1	1, 1, 1	Introductory
ENV	2900	Compost, util. agricult. biol.	1	Undergraduate	Environnement	1, 2, 1	3, 3, 2, 2	1, 2	3, 2, 1	Awareness

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						Systems Thinking	Anticipatory	Normative	Strategic	
ENV	3010	Projet conservation environn.	1	Undergraduate	Environnement	3, 3, 3	3, 3, 3, 3	3, 3	3, 3, 3	Advanced
ENV	6901	Méth. gest. int. ress., espace	1	Graduate	Environnement	3, 3, 3	3, 3, 3, 2	3, 3	3, 3, 2	Advanced
ENV	6902	Prat. gest. int. ress., espace	1	Graduate	Environnement	3, 3, 3	3, 3, 3, 3	3, 3	3, 3, 2	Advanced
ENV	7900	Toxicol. agroenvironnementale	1	Graduate	Environnement	2, 3, 2	3, 3, 2, 2	2, 2	3, 2, 1	Introductory
EPS	1300	Relaxation, autogestion stress	2	Undergraduate	Éducation physique	3, 3, 2	3, 3, 1, 2	0, 3	3, 0, 3	Advanced
ERG	2001	Env.: poss., limites milieux	1	Undergraduate	Ergothérapie	1, 2, 1	1, 1, 1, 1	1, 1	2, 2, 2	Awareness
ESP	2000	Culture espagnole	1	Undergraduate	Espagnol	3, 3, 3	3, 2, 2, 3	3, 3	3, 3, 1	Awareness
ESP	2003	Culture de l'Amérique latine	1	Undergraduate	Espagnol	1, 2, 1	1, 1, 1, 1	1, 1	2, 2, 2	Introductory
ESP	2005	Literat. hispanoameric. actual	1	Undergraduate	Espagnol	1, 1, 1	1, 1, 1, 1	1, 1	2, 2, 2	Introductory
ESP	2006	Literatura española siglo XX	1	Undergraduate	Espagnol	3, 3, 3	3, 2, 3, 2	3, 3	2, 3, 2	Awareness
ESP	2007	Literat. esp. del med. real.	1	Undergraduate	Espagnol	1, 1, 1	1, 1, 1, 1	1, 1	2, 2, 2	Introductory
ESP	2204	Cine y literaturas hispánicas	1	Undergraduate	Espagnol	1, 1, 1	1, 1, 1, 1	1, 1	2, 2, 2	Introductory
ESP	2212	Temas literaturas hispánicas	1	Undergraduate	Espagnol	3, 3, 3	3, 2, 3, 2	3, 3	3, 3, 1	Awareness
FIS	4103	Coll. interprof. personne 3	3	Undergraduate	Formation interdisc. En santé	3, 3, 3	3, 2, 1, 3	3, 3	3, 3, 3	Advanced
FOR	1003	Écologie forestière I	1	Undergraduate	Foresterie	2, 1, 0	1, 0, 0, 0	0, 0	1, 0, 0	Awareness
FOR	1005	Sols forestiers	1	Undergraduate	Foresterie	1, 1, 0	1, 1, 0, 0	0, 0	0, 0, 0	Awareness
FOR	1010	Fondements de la foresterie	1	Undergraduate	Foresterie	3, 3, 3	3, 2, 3, 3	1, 1	2, 2, 1	Introductory

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						Systems Thinking	Anticipatory	Normative	Strategic	
FOR 1012	Aménag. durable, intégr. forêt	This course aims to develop the student's skills associated with the implementation of sustainable and integrated forest management. The main objective is to acquire the conceptual and methodological bases necessary to develop sustainable management strategies for a given forest area.	1	Undergraduate	Foresterie	3, 3, 3	3, 3, 2, 3	3, 3	3, 2, 3	Advanced
FOR 1120	Aménagement récréatif & paysager	This course is intended to familiarize students with certain principles that form the basis of recreational, forest, and park management: national and provincial park policy, recreational potential analysis, development of recreational tourism product and mitigation of the impacts of recreation. This course will also cover some approaches to the visual design of forest landscapes: inventory of the sensitivity of landscapes and mitigation of the aesthetic impacts of logging. This course develops competences in social acceptability, and studies the many possible uses of a given territory from a sustainable development perspective.	1	Undergraduate	Foresterie	2, 2, 3	2, 3, 3, 2	2, 3	3, 2, 3	Advanced
FOR 1201	Géographie forestière	Origin and evolution of the world's forests: paleobotany, continental drift, prehistory and recent history. Climatic, edaphic and floristic factors responsible for the establishment of forests. The role of man in the transformation of forests. Synthesis on global deforestation and the future of forests.	1	Undergraduate	Foresterie	3, 3, 3	2, 2, 1, 3	1, 2	2, 2, 1	Advanced
FOR 1202	Sém. foresterie internationale	Practical study of selected themes in international forestry. Each topic includes an in-depth literature review and presentation given by a field consultant, followed by a discussion and synthesis report prepared by each student. This course develops the student's knowledge in forestry from a sustainable development perspective.	1	Undergraduate	Foresterie	2, 1, 1	2, 1, 1, 0	0, 2	1, 1, 0	Awareness
FOR 2007	Form. prat. sylvicult. écol.	This practical training course focuses on the design of silvicultural intervention plans using an ecological approach that takes into account the dynamics, productivity, fragility and vulnerability of ecosystems.	1	Undergraduate	Foresterie	2, 3, 2	3, 3, 0, 3	1, 1	3, 2, 3	Advanced
FOR 2009	Form. prat. planif. sylvicole	This course is a follow-up to practical training in silviculture and ecology. The aim is to produce a five-year development plan based on the inventories made of the Montmorency Forest during the summer.	1	Undergraduate	Foresterie	2, 3, 2	3, 3, 0, 3	1, 1	3, 2, 3	Advanced
FOR 2015	Problém. forestière du Québec	Introduction to policy analysis and decision-making in public administration. Description and study of the forest environment in Québec: Development of the forestry problems of Québec according to economic, social, cultural and environmental axes. The state of Québec forestry from a global perspective. Exploring the multidimensional nature of the forest. Understanding the ethical foundations of forestry practice in Québec.	1	Undergraduate	Foresterie	3, 3, 3	2, 1, 2, 3	3, 3	2, 3, 2	Advanced
FOR 2017	Economie environnem. forestier	Microeconomic concepts applied to the forest environment: business theory, production function and resource use; Economy of supply, technology and innovation; Consumer behavior and demand for forest resources; Balance of markets, externalities, sustainable development and sustainability of resources.	1	Undergraduate	Foresterie	3, 2, 3	3, 3, 1, 2	2, 1	1, 1, 1	Introductory
FOR 2019	Pathologie forestière	Main concepts and types of tree diseases. The agents responsible and their effects on the tree and the forest. Symptomatology, etiology, pathology, epidemiology and control method. This course introduces students to forest pathology from a sustainable development perspective.	2	Undergraduate	Foresterie	2, 2, 2	3, 3, 1, 2	2, 1	2, 1, 2	Advanced
FOR 2020	Évaluation environnementale	Understanding of the concept of environmental information. Use of environmental information in the context of an impact study.	1	Undergraduate	Foresterie	3, 2, 2	3, 2, 1, 2	2, 2	2, 1, 2	Advanced
FOR 2025	Aménag. écosyst. forêts Québec	Study of the edaphic characteristics, the structure, the floristic composition, the successional dynamics and the functioning of the main forest ecosystems of Québec. Ecological foundations for the ecosystem-based management of these forests and analysis of the main management issues in different bioclimatic areas of the province.	1	Undergraduate	Foresterie	3, 2, 3	3, 3, 1, 2	2, 1	1, 1, 1	Introductory
FOR 2150	Dépôts et sols forestiers	Large geological ensembles in Québec: Surface deposits, their shape, composition and geotechnical classification. Soil biology and forms of humus. Texture, structure, porosity and apparent density. Soil water. Notions of chemistry and soil biochemistry. Element Cycle and Stand Nutrition. Pedogenesis, classification and mapping. This course introduces students to geology and pedology from a sustainable development perspective.	1	Undergraduate	Foresterie	3, 2, 3	3, 3, 1, 2	2, 1	1, 1, 1	Introductory
FOR 2206	Acériculture	This course presents the concepts, principles and techniques that underlie maple syrup production: assessing the environmental conditions of sugar bushes; Development and silviculture; Nutrition for sugar bushes; Protection and harmful factors; Infrastructure planning and planning; Physiology of casting and notching; Governance and production; Marketing. This course introduces students to maple syrup production from a sustainable development perspective.	1	Undergraduate	Foresterie	2, 2, 1	1, 1, 1, 2	2, 1	2, 1, 2	Awareness
FOR 2210	Hydrologie, amén. bassin vers.	The concepts of the water cycle, water balance and watersheds. Description of the main processes involved in the water cycle (precipitation, evapotranspiration, storage and runoff) and analysis of the impact of spatial planning activities on these processes. Laws and regulations related to water and its protection. Integrated water management by watershed in the Québec context.	1	Undergraduate	Foresterie	2, 3, 2	3, 1, 1, 3	2, 2	3, 3, 1	Advanced
FOR 3101	Planif. forest. mise en oeuvre	Implementation of a general management plan through a five-year program: analysis and implementation of the objectives of the management strategy, construction of cutting sites, planning of access to the territory, cost balancing Exploitation by simulation, analysis of the gap between the five-year program and the management strategy.	1	Undergraduate	Foresterie	3, 3, 1	3, 2, 0, 3	3, 3	3, 3, 3	Advanced
FOR 4035	Sylviculture	Review of ecological requirements of major commercial species. Silvicultural treatments and strategies applicable to the various stands to promote their regeneration, growth, pest resistance and stem quality. Biological, environmental, technical and economic aspects of reforestation.	1	Undergraduate	Foresterie	2, 2, 0	0, 1, 0, 2	0, 0	1, 0, 0	Awareness
FOR 4036	Hydrologie de l'environnement	This course, based on a problem-based learning approach, proposes to the student to solve targeted territorial management problems where hydrology is at the heart of reflections. As a team, students must use a structured work method to acquire the knowledge and skills required to suggest a realistic, comprehensive and coherent solution to the proposed problems.	1	Undergraduate	Foresterie	3, 3, 3	3, 3, 2, 3	1, 2	3, 3, 3	Advanced



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FPT	3000	Formation profess. & technique	1	Undergraduate	Formation prof. Et technique	3, 2, 2	3, 1, 1, 2	1, 2	2, 3, 2	Introductory
FRN	1914	Communicat. pour scientifique	3	Undergraduate	Français	1, 1, 1	1, 1, 1, 1	1, 1	1, 1, 1	Awareness
GAA	7003	Infiltration et drainage	1	Graduate	Génie agroalimentaire	0, 1, 0	1, 0, 0, 1	0, 0	1, 0, 0	Advanced
GAD	1003	Org. & législation de service	1	Undergraduate	Archivistique	1, 1, 1	1, 1, 1, 1	1, 1	2, 1, 1	Awareness
GAE	1000	Concepts génie agroenvironnement.	1	Undergraduate	Génie agroalimentaire	2, 2, 2	2, 2, 1, 2	0, 0	1, 0, 1	Awareness
GAE	1001	Probl. environn. agroaliment.	1	Undergraduate	Génie agroalimentaire	2, 2, 2	2, 2, 0, 2	0, 0	2, 0, 1	Awareness
GAE	1900	Introduction au génie rural	1	Undergraduate	Génie agroalimentaire	1, 1, 2	2, 1, 1, 0	1, 1	1, 1, 1	Awareness
GAE	2000	Hydrologie agricole & envir.	1	Undergraduate	Génie agroalimentaire	2, 2, 1	2, 2, 0, 1	0, 1	2, 1, 1	Advanced
GAE	2004	Gest. sous-produits agroalim.	1	Undergraduate	Génie agroalimentaire	2, 2, 1	2, 2, 0, 2	1, 0	2, 1, 2	Awareness
GAE	3000	Design de machines agricoles	1	Undergraduate	Génie agroalimentaire	3, 2, 2	3, 3, 0, 3	3, 2	2, 1, 1	Advanced
GAE	3001	Drainage	1	Undergraduate	Génie agroalimentaire	1, 1, 2	3, 2, 0, 2	1, 1	1, 0, 0	Advanced
GAE	3003	Projet d'ingénierie I	1	Undergraduate	Génie agroalimentaire	0, 0, 0	1, 1, 0, 1	0, 0	0, 1, 0	Awareness
GAE	3004	Projet d'ingénierie II	1	Undergraduate	Génie agroalimentaire	0, 0, 0	1, 1, 0, 1	0, 0	0, 1, 0	Awareness
GAE	3005	Amén. cours d'eau, cons. sols	1	Undergraduate	Génie agroalimentaire	2, 2, 2	3, 2, 0, 2	1, 1	2, 1, 0	Advanced
GAL	2000	Manutention emballage aliments	1	Undergraduate	Génie alimentaire	1, 1, 1	1, 1, 0, 1	0, 0	1, 0, 0	Awareness
GCI	1000	Matériaux de construction	1	Undergraduate	Génie civil	2, 1, 2	2, 2, 1, 1	1, 1	1, 1, 0	Awareness
GCI	1003	Eaux vives	2	Undergraduate	Génie civil	3, 2, 2	2, 1, 2, 2	1, 2	1, 2, 1	Introductory

Course	Name	Description	# of Sections	Level	Department	4 Key Competencies				Integration into Sustainability
						Systems Thinking	Anticipatory	Normative	Strategic	
GCI	2005	Mécanique des sols II	1	Undergraduate	Génie civil	2, 2, 3	2, 1, 2, 2	2, 2	3, 2, 1	Awareness
GCI	2009	Hydrologie	2	Undergraduate	Génie civil	1, 1, 1	0, 0, 1, 0	1, 2	1, 2, 0	Awareness
GCI	2010	Laboratoire d'hydraulique	2	Undergraduate	Génie civil	1, 0, 0	0, 1, 0, 0	0, 0	0, 0, 0	Awareness
GCI	2012	Hydraulique urbaine	1	Undergraduate	Génie civil	1, 1, 1	2, 2, 2, 0	1, 1	1, 0, 0	Awareness
GCI	2102	Gest. int. déchets sol. munic.	1	Undergraduate	Génie civil	3, 3, 1	3, 2, 1, 2	3, 1	2, 3, 2	Introductory
GCI	3001	Impacts environnementaux	1	Undergraduate	Génie civil	3, 3, 3	3, 2, 1, 2	1, 2	2, 2, 2	Advanced
GCI	3101	Projet d'hydraulique urbaine	1	Undergraduate	Génie civil	1, 1, 1	2, 2, 2, 0	1, 1	1, 0, 0	Awareness
GCI	3201	Aménagement hydraulique	1	Undergraduate	Génie civil	3, 3, 3	3, 3, 3, 3	3, 3	3, 3, 3	Awareness
GEX	4000	Eau, assain. pays en développ.	1	Undergraduate	Génie des eaux	1, 1, 2	2, 1, 1, 2	1, 1	1, 1, 1	Awareness
GGL	2601	Analyse, modél. syst. naturels	1	Undergraduate	Génie géologique	2, 3, 3	3, 2, 1, 1	0, 1	3, 1, 1	Introductory
GGR	1000	Introduction carte du monde	3	Undergraduate	Géographie	1, 1, 2	2, 1, 1, 1	0, 1	0, 1, 1	Awareness
GGR	1006	Changements climatiques	2	Undergraduate	Géographie	2, 2, 3	2, 2, 1, 1	1, 1	1, 1, 0	Introductory
GGR	1008	Environnements naturels	2	Undergraduate	Géographie	2, 2, 2	1, 1, 1, 1	0, 0	0, 0, 0	Awareness
GGR	1050	Fondements du tourisme durable	1	Undergraduate	Géographie	3, 3, 3	3, 0, 1, 3	3, 3	3, 2, 3	Advanced
GGR	2101	Géographie politique	1	Undergraduate	Géographie	1, 1, 1	1, 0, 0, 1	0, 0	1, 0, 0	Awareness

Course	Name	Description	# of Sections	Level	Department	4 Key Competencies				Integration into Sustainability
						Systems Thinking	Anticipatory	Normative	Strategic	
GGR	2102	Géographie régionale du Québec	1	Undergraduate	Géographie	2, 2, 2	2, 1, 2, 1	1, 2	0, 1, 0	Awareness
GGR	2507	Géographie du Canada	1	Undergraduate	Géographie	1, 2, 1	1, 1, 0, 1	0, 1	1, 1, 0	Awareness
GGR	3102	Terr., ress.: persp. autocht.	1	Undergraduate	Géographie	2, 2, 3	2, 1, 3, 2	2, 3	2, 2, 2	Awareness
GGR	7051	Chang. clim.: conség., adapt.	1	Graduate	Géographie	3, 3, 2	3, 1, 1, 2	1, 1	3, 2, 2	Introductory
GGR	7052	Att. chang. clim.: écon., pol.	1	Graduate	Géographie	2, 2, 2	3, 3, 1, 2	3, 2	2, 2, 2	Introductory
GIE	6000	Données fondamentales mondial.	1	Graduate	Gestion internationale	2, 2, 2	2, 1, 1, 2	1, 1	2, 1, 1	Awareness
GIE	6025	Relat. Nord-Sud: enjeux éth.	1	Graduate	Gestion internationale	2, 3, 3	3, 3, 3, 3	3, 3	3, 3, 3	Advanced
GIE	6031	Thèmes émergents en dév. int.	1	Graduate	Gestion internationale	2, 2, 2	2, 2, 1, 2	2, 2	3, 2, 2	Awareness
GIE	6033	Gestion projets humanitaires	1	Graduate	Gestion internationale	2, 2, 2	2, 2, 1, 2	2, 2	3, 2, 2	Awareness
GIE	6043	Innovation pays émergents	1	Graduate	Gestion internationale	2, 3, 2	3, 2, 0, 1	1, 1	2, 2, 2	Advanced
GIE	6081	Rel. hum. en affaires intern.	1	Graduate	Gestion internationale	2, 2, 2	1, 1, 1, 1	2, 3	2, 2, 1	Awareness
GIN	3110	Envir., cycle de vie produits	1	Undergraduate	Génie industriel	3, 3, 3	3, 3, 2, 3	3, 3	2, 2, 3	Advanced
GLG	1000	Planète Terre	3	Undergraduate	Géologie	2, 2, 2	2, 1, 0, 0	0, 0	1, 0, 0	Awareness
GLG	1900	Introd. sciences de la Terre	1	Undergraduate	Géologie	0, 0, 0	0, 0, 0, 0	0, 1	0, 1, 0	Other
GMC	1002	Introd. à la thermodynamique	1	Undergraduate	Génie mécanique	1, 1, 1	2, 2, 1, 1	1, 0	1, 1, 0	Awareness

Course	Name	Description	# of Sections	Level	Department	4 Key Competencies				Integration into Sustainability
						Systems Thinking	Anticipatory	Normative	Strategic	
GMC 2009	Conception systèmes production	Production systems: history, characteristics and methods of analysis. Methods and models of operational research. Introduction to linear programming. Methods of resolution. Graphical method and simplex method. Theory of duality and sensitivity analysis. Transportation and assignment problems. Theory of graphs and networks. Shortest path algorithms. Trees and cover shafts. Maximum flow in a graph (Ford-Fulkerson algorithm). Flot at minimum cost. Project planning and control: CPM-PERT and PERT-Cost. The design of a production system, the analysis of the product, the process and the capacity: methods and economic analysis. Location, layout and handling. This course also develops competencies relating to efficiency and management of material resources from a sustainable development perspective.	1	Undergraduate	Génie mécanique	0, 0, 1	1, 0, 0, 1	0, 1	1, 0, 0	Awareness
GMC 3012	Intr. mec. bât. éner. renouv.	This course is an introduction to building mechanics, covering the following topics: air conditioning, humid air, thermal comfort, indoor air quality, building heat, heating load, solar radiation, cooling load. Energy simulation, fluid distribution networks, lighting. In addition, part of the course is devoted to renewable energies, in particular geothermal energy and solar energy. Finally, the course offers students the opportunity to reflect on the importance of energy in our lives, in a context of sustainable development.	1	Undergraduate	Génie mécanique	2, 2, 2	3, 3, 1, 2	3, 3	3, 3, 1	Advanced
GMC 4350	Turbomachines	Theory of axial and radial turbomachines (pumps, turbines, compressors, etc.), momentum, speed triangles. Principles of operation, similarity, characteristic curves, use in parallel and in series, entropy-enthalpy diagrams. Pressure losses and leaks, cavitation, yields. Elements of design and evaluation of turbomachine systems, behavior outside normal rpm. The importance of energy efficiency from a sustainable development perspective.	1	Undergraduate	Génie mécanique	1, 0, 0	1, 0, 0, 1	0, 0	2, 0, 0	Awareness
GMN 2005	Environn. minier, métallurgiq.	Sustainable development in the mining and metallurgical industry. Environmental problems of the metallurgical industry. Contribution to the problems of greenhouse gases and acid rain.	2	Undergraduate	Génie minier	3, 3, 2	3, 3, 1, 2	2, 2	2, 1, 1	Advanced
GMN 7009	Ress. énergétiques et envir.	This course presents energy resources, their use in the modern world and their effect on the environment. It covers the production, transmission, conversion and consumption of non-renewable and renewable energies in our society. It also highlights the economic aspect of their extraction and the environmental impact of their use. Finally, it presents energy efficiency and conservation of energy.	1	Graduate	Génie minier	3, 3, 3	3, 3, 3, 3	1, 1	3, 1, 3	Advanced
GMT 1100	Urbanisme fondamental	History and evolution of city planning. Urban functions. Terminology. The territory and its shaping (rural and urban forms). Planning scales. The regulatory framework. The urban planning file. Sustainable planning. Planning instruments. Public spaces. Selective bibliographic overview.	1	Undergraduate	Géomatique	3, 2, 3	3, 2, 2, 1	1, 2	2, 2, 1	Advanced
GMT 4002	Cadastré	The cadastre: definition, origin, typology and evolution. The cadastre of Quebec: history, nature, utility, mode of realization, legal framework and standards of execution. Environmental Regulation: zoning rules, land-use conflicts, sustainable development.	1	Undergraduate	Géomatique	1, 0, 2	2, 2, 0, 0	1, 1	1, 2, 0	Awareness
GMT 6009	Systèmes cadastraux	Introduction to cadastral systems. Origins, missions and evolution of the cadastre. Technical characteristics and legal framework. Multipurpose use of cadastral systems: development, development. Study of the cadastre of Quebec. Presentation of foreign cadastres. Environmental Regulation: zoning rules, land-use conflicts, sustainable development.	1	Graduate	Géomatique	2, 1, 2	2, 1, 0, 2	2, 1	1, 2, 1	Introductory
GMT 7008	Qualité données géospaciales	The aim of this course is to present methods, techniques and concepts relevant to the assessment of the quality of geospatial data. Internal quality (accuracy, logical coherence, completeness, etc.) and external quality (usage, risk management, legal aspects, etc.) are discussed. Furthermore, the environmental sustainability consequences of geospatial data collection and analysis are discussed.	1	Graduate	Géomatique	2, 2, 1	2, 2, 1, 2	2, 1	2, 2, 2	Awareness
GMT 7009	Géomatique environnementale	Introduction to basic notions and concepts in environmental geomatics. Presentation of the principles governing the development and management of territories and natural resources supported by geomatics. Nature of geospatial information used for management, assessment and description of the environment. Presentation of geomatic approaches to environmental impact studies.	1	Graduate	Géomatique	3, 3, 3	3, 3, 3, 3	2, 3	2, 2, 2	Advanced
GMT 7015	SIG et analyse spatiale	Theoretical and practical knowledge required for the processing and analysis of geospatial data of vector, matrix, network and three-dimensional types and then automation of these treatments. The sustainable-development perspective on geospatial data collection.	2	Graduate	Géomatique	1, 1, 2	2, 1, 0, 2	0, 0	2, 2, 1	Awareness
GRH 1403	Travail d'équipe, comp. humain	This course aims to make the participant aware of the interaction phenomena that occur in a working group. Through modern methods, students are placed in the context of perception, motivation, leadership, teamwork, communication, etc. Emphasis will be placed on the interactions that occur in the group. This course allows students to acquire interpersonal competencies for conflict resolution from a sustainable development perspective.	1	Undergraduate	Gestion des ress. Humaines	2, 2, 2	2, 2, 2, 2	2, 1	3, 2, 2	Introductory
GSC 1000	Méthodologie de design en ing.	This course allows the student, in a team of six or seven members, to acquire and perfect, by carrying out a design project, skills in teamwork, engineering project management and communication from a sustainable development perspective.	8	Undergraduate	Génie et sciences	2, 2, 1	2, 1, 1, 2	0, 0	2, 1, 0	Awareness
GSF 1010	Macroéconomie financière	The fundamentals of modern macroeconomics and linkages with finance. Gross domestic product, unemployment, inflation, determination of the interest rate and the role of financial institutions. Economic growth, sustainable development, openness and international trade.	5	Undergraduate	Gestion financière	1, 0, 1	1, 0, 1, 0	0, 1	0, 0, 0	Awareness
GSO 1000	Opérations et logistique	This course introduces the logistics function of a manufacturing organization. The content focuses on different types of production systems, inventory management, overall production planning, material needs planning, project management, scheduling, quality management, maintenance, development, transport management, site selection. This, in turn, allows the student to acquire a knowledge base in operations and logistics, as well as material resource management, from a sustainable development perspective.	8	Undergraduate	Gestion des opérations	2, 1, 1	1, 1, 1, 2	0, 1	1, 2, 2	Awareness

Course	Name	Description	# of Sections	Level	Department	4 Key Competencies				Integration into Sustainability
						Systems Thinking	Anticipatory	Normative	Strategic	
GSO	6005	Opérations	4	Graduate	Gestion des opérations	3, 3, 1	2, 1, 0, 1	1, 1	2, 1, 3	Awareness
GUI	2103	Immobilier et dével. durable	2	Undergraduate	Gest. Urbaine et immobilière	2, 2, 2	3, 1, 3, 3	1, 3	2, 2, 1	Advanced
GUI	6100	Écon. urbaine, marchés immob.	3	Graduate	Gest. Urbaine et immobilière	2, 2, 2	2, 2, 1, 2	0, 1	2, 1, 2	Awareness
HST	1004	Introd. civilisations antiques	1	Undergraduate	Histoire	2, 2, 2	2, 1, 1, 1	0, 1	1, 2, 0	Awareness
IFT	1903	Informatique pour l'ingénieur	3	Undergraduate	Informatique	2, 2, 3	2, 1, 2, 2	2, 2	3, 2, 1	Awareness
MCB	3003	Écologie microbienne	1	Undergraduate	Microbiologie	2, 1, 1	2, 2, 0, 1	1, 0	0, 0, 1	Introductory
MED	1209	Organ. sens fond. probl. clin.	1	Undergraduate	Médecine	2, 2, 2	3, 3, 3, 2	2, 3	2, 3, 1	Awareness
MED	1217	Psychisme : fond. probl. clin.	1	Undergraduate	Médecine	2, 1, 0	0, 3, 0, 0	3, 0	0, 0, 0	Other
MED	1222	Syst. hém. fond. probl. clin.	1	Undergraduate	Médecine	0, 0, 0	0, 0, 0, 0	0, 0	0, 0, 0	Other
MED	1228	Pers. âgées, soins fin de vie	1	Undergraduate	Médecine	1, 2, 2	1, 2, 0, 0	3, 2	2, 3, 2	Other
MNG	1000	L'entreprise et sa gestion	10	Undergraduate	Management	1, 1, 0	1, 1, 0, 1	1, 0	1, 0, 0	Awareness
MNG	1101	Gestion croissance d'une PME	3	Undergraduate	Management	2, 1, 1	1, 1, 1, 1	2, 2	1, 1, 1	Awareness
MNG	2003	Planification, gestion projets	4	Undergraduate	Management	0, 0, 0	0, 3, 0, 0	0, 0	0, 0, 0	Introductory
MNG	2109	Resp. soc. entr., écon. solid.	1	Undergraduate	Management	3, 3, 3	3, 1, 1, 1	2, 2	2, 2, 1	Advanced
MNG	2110	Dév. durable et gestion org.	4	Undergraduate	Management	3, 3, 2	3, 3, 2, 2	2, 2	3, 3, 2	Introductory

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						Systems Thinking	Anticipatory	Normative	Strategic	
MNG 3113	Gérer décider en situat. crise	Knowing how to deal with crises is a critical issue for all managers. Mobilizing the right reflexes, coping with the press and putting in place effective responses to prevention and steering are some of the skills that can be expected of any manager. Understanding the sustainable development aspect of crisis management is also an important competency.	2	Undergraduate	Management	2, 2, 3	3, 3, 0, 3	0, 2	3, 2, 2	Advanced
MNG 4144	Transmiss., releve d'entrepr.	This course deals with the different aspects of business transfer, namely transfer of management and transfer of ownership, taking into account the various actors involved in the process. Although there is an important place for the transfer of family business, the course also addresses internal (by employees) and external (redemption) transmission, from the social business perspective.	1	Undergraduate	Management	2, 2, 1	1, 1, 2, 1	0, 1	2, 1, 2	Introductory
MNG 6009	Systèmes gestion environnem.	Students become aware of the complexity and challenges of environmental management based on case studies, real-life examples and theoretical reflections. Environmental management systems, in particular ISO 14000, serve as the backdrop for a more comprehensive analysis of the human and strategic aspects of sustainable development by organizations.	1	Graduate	Management	3, 3, 3	3, 3, 2, 2	3, 3	3, 3, 3	Advanced
MNG 6054	Diversité, équité milieu trav.	This course provides an update on the diversity and equity issues in the workplace for the four target groups (women, visible minorities, persons with disabilities and Aboriginal peoples) and the explanations for this state of affairs. Best practices to reduce inequalities are also analyzed from the sustainable development perspective.	1	Graduate	Management	2, 2, 2	2, 1, 0, 1	1, 2	2, 2, 1	Awareness
MNG 6055	Gestion des risques et crises	This course aims to identify and define the meaning of crises in contemporary organizations and to develop skills and knowledge in order to intervene appropriately in crises. Through this study, the student will develop competencies in decision-making in a crisis situation from a sustainable development perspective.	1	Graduate	Management	3, 3, 3	3, 3, 0, 3	1, 3	3, 2, 2	Advanced
MNG 6128	Gestion développement durable	The main objective of this course is to train a manager who is more concerned with the social and environmental responsibility of organizations by fostering a broader understanding of practices that effectively integrate sustainable development into organizations.	1	Graduate	Management	3, 3, 2	3, 3, 2, 2	2, 2	3, 3, 2	Introductory
MNG 6130	Leadership	The objective of this course is to support the development of the skills of the current or future leader. Demanding introspection, questioning and openness to change, this course invites the student to determine their stakes, difficulties and aspirations as a leader, to grasp the great forms of power they are called upon to exercise (for example, authority), as well as to articulate a personal development project and implement it throughout the session. This work is undertaken from a sustainable development perspective.	3	Graduate	Management	2, 2, 2	1, 1, 1, 0	0, 0	1, 1, 2	Introductory
MNG 6155	Gest. entr. soc. et solidaires	This course presents the challenges of managing social and solidarity enterprises (SSE). It offers students conceptual tools and concrete examples to understand the small, medium and large SSEs that are now present in several sectors of activity and that respond to the socio-economic needs of the communities where they settle. The course also provides concrete means of action that enable SSEs to respond to six sustainable development issues at local, national and international levels.	1	Graduate	Management	3, 3, 3	3, 1, 1, 1	2, 2	2, 2, 1	Advanced
MNG 6704	Resp. entr., mod. aff., out.	This course is intended for graduate students and proposes them to change the company "from the inside" into a market logic, with management tools for generating profits. But it is aimed above all at managers concerned with building a sustainable, credible CSR approach, driven by a business model that is sustainable and capable of being imitated and spreading in a business context.	1	Graduate	Management	3, 3, 3	3, 2, 1, 3	2, 3	3, 2, 3	Advanced
MRK 1900	Marketing touristique durable	Fundamentals of marketing from a sustainable development perspective. Nature of tourism services and role of marketing for organization and territory.	1	Undergraduate	Marketing	2, 2, 3	2, 3, 0, 2	0, 2	2, 3, 1	Advanced
MRK 6017	Marketing responsable	Marketing is a discipline that aims to satisfy the needs of consumers. Responsible marketing is an approach that considers the reactions of society, whether explicit (eg laws), implicit (eg public opinion) or probable (eg activism) within the context of modern environmental, economic and social sustainability problems.	2	Graduate	Marketing	2, 2, 2	2, 1, 1, 2	2, 3	1, 2, 1	Introductory
MUS 1020	Cultures musicales du monde	Introduction to the principles and history of ethnomusicology: An overview of the main musical cultures, both scholarly and popular; Organology: Forms and genres; Links with dance and worship; The place of music in societies. To ask Western musical systems which have existed in parallel or on the margins questions arising from practices of different type, which bring out the specificity of each one. Through this course, students will develop a working knowledge of cultural diversity in a context of social sustainability.	1	Undergraduate	Musique	3, 3, 3	3, 2, 2, 3	3, 3	2, 2, 2	Awareness
MUS 1704	Formation à la vie culturelle	The course is built around a series of events (symphonic concert, recital, opera, theater, exhibition, ballet, etc.) selected in the seasonal programming of various Quebec cultural organizations, Québec (OSQ). It has three components: pre-event briefing (with the participation of different guests), event itself, critical review. Through this course, students will develop a working knowledge of cultural diversity in a context of social sustainability.	2	Undergraduate	Musique	1, 1, 1	2, 0, 1, 2	1, 1	1, 0, 0	Awareness
MUS 3700	Gestion de carrière en musique	Presentation and development of the necessary skills and the various resources available for the management and the success of a career in music, especially in a sustainable business context.	1	Undergraduate	Musique	3, 2, 2	3, 3, 2, 3	3, 3	2, 3, 3	Introductory
NUT 1000	Méth., pratiques en nutrition	Study of the nature and use of the human nutrition professional's basic tools required for assessing the nutritional quality of the diet: feeding guides, recommended nutrient intakes, nutritional tables, sustainable health etc. An overview of methods for assessing intake and nutritional status of individuals. Energy requirements and energy inputs from food.	1	Undergraduate	Nutrition	1, 1, 2	2, 1, 2, 1	1, 2	1, 1, 0	Awareness

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						Systems Thinking	Anticipatory	Normative	Strategic	
NUT	1104	Éléments de nutrition	2	Undergraduate	Nutrition	1, 1, 1	3, 2, 0, 1	0, 2	3, 1, 1	Awareness
NUT	3001	Menus des collectivités	1	Undergraduate	Nutrition	2, 2, 2	2, 2, 1, 2	1, 2	2, 2, 2	Advanced
NUT	3004	Nutr. publ. II: interventions	1	Undergraduate	Nutrition	2, 2, 2	2, 1, 1, 1	0, 0	2, 2, 2	Introductory
ORT	1001	Neurosciences et langage	2	Undergraduate	Orthophonie	2, 2, 1	1, 2, 2, 1	1, 2	2, 1, 1	Awareness
ORT	6002	Counseling et relation d'aide	1	Graduate	Orthophonie	0, 0, 0	1, 1, 0, 0	0, 0	0, 0, 1	Other
PHA	2072	Environnem. externe pratique 1	1	Undergraduate	Pharmacie	1, 1, 1	1, 1, 1, 1	1, 1	1, 1, 1	Awareness
PHA	2082	Environnem. externe pratique 2	1	Undergraduate	Pharmacie	1, 1, 1	1, 1, 1, 1	1, 1	1, 1, 1	Awareness
PHA	3025	Gestion médicaments et enjeux	1	Undergraduate	Pharmacie	1, 1, 1	0, 1, 0, 1	1, 0	2, 1, 0	Awareness
PHI	1064	Observat. philosophie enfants	2	Undergraduate	Philosophie	2, 2, 2	3, 2, 2, 2	1, 2	1, 1, 1	Introductory
PHI	2130	Philosophie de la biologie	1	Undergraduate	Philosophie	2, 2, 2	2, 1, 1, 2	2, 3	2, 2, 0	Awareness
PHI	2140	Éth., sc. biol.: volet bioméd.	1	Undergraduate	Philosophie	2, 2, 2	2, 3, 2, 2	1, 2	2, 1, 1	Advanced
PHI	2141	Éth., sci. biol.: v. environn.	1	Undergraduate	Philosophie	2, 2, 3	2, 3, 2, 1	1, 3	3, 1, 1	Advanced
PHI	2910	Génie et développement durable	6	Undergraduate	Philosophie	2, 3, 2	3, 3, 2, 2	1, 2	2, 2, 1	Advanced
PHI	3900	Éthique et professionnalisme	9	Undergraduate	Philosophie	2, 2, 2	2, 2, 1, 2	3, 3	3, 3, 3	Introductory

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						Systems Thinking	Anticipatory	Normative	Strategic	
PHI	7200	Rech. eth. médic., environnem.	1	Graduate	Philosophie	2, 2, 2	2, 2, 2, 2	1, 2	2, 1, 1	Advanced
PHT	2001	Apprent., rééduc. du mouvement	1	Undergraduate	Physiothérapie	3, 2, 3	2, 3, 1, 2	2, 2	3, 1, 1	Advanced
PHT	3100	Interventions spéc. pédiatrie	1	Undergraduate	Physiothérapie	3, 3, 3	2, 3, 1, 3	2, 2	2, 2, 2	Advanced
PLG	1000	Introd. agricul. biologique	1	Undergraduate	Phytologie	3, 2, 2	2, 2, 2, 3	2, 3	3, 3, 3	Advanced
PLG	1001	Productions végétales durables	1	Undergraduate	Phytologie	3, 3, 3	3, 3, 3, 3	3, 3	3, 3, 3	Advanced
PLG	1002	Anatomie, morphologie végétal.	1	Undergraduate	Phytologie	1, 0, 1	1, 1, 0, 0	0, 1	1, 0, 0	Awareness
PLG	2100	Aménagement du paysage	1	Undergraduate	Phytologie	1, 2, 1	2, 2, 1, 2	0, 1	2, 2, 2	Awareness
PLG	2101	Arboric.: princ., prat. entr.	1	Undergraduate	Phytologie	2, 2, 1	3, 3, 2, 2	3, 2	3, 3, 2	Introductory
PLG	2300	Agriculture écologique	1	Undergraduate	Phytologie	2, 2, 1	1, 1, 1, 2	0, 1	2, 1, 2	Advanced
PLG	2303	Prod. biol. cultures en champ	1	Undergraduate	Phytologie	1, 1, 1	2, 1, 0, 1	1, 1	2, 1, 0	Awareness
PLG	3100	Séminaire en phytologie	1	Undergraduate	Phytologie	1, 1, 1	1, 0, 0, 0	0, 0	1, 0, 0	Awareness
PLG	3200	Plantes et cultures d'ornement	1	Undergraduate	Phytologie	2, 2, 1	1, 0, 1, 0	0, 0	1, 0, 1	Awareness
PLG	3202	Céréales et maïs	1	Undergraduate	Phytologie	2, 2, 1	1, 1, 2, 2	1, 1	2, 1, 1	Awareness
PLG	3205	Plantes nuisibles	1	Undergraduate	Phytologie	1, 1, 1	2, 2, 1, 1	1, 1	1, 1, 1	Awareness
PLG	3206	Plantes fourragères	2	Undergraduate	Phytologie	2, 2, 1	1, 1, 0, 2	0, 2	2, 0, 0	Awareness
POL	2207	Politiques environnementales	1	Undergraduate	Science politique	3, 3, 3	2, 2, 2, 1	1, 3	1, 1, 1	Introductory
POL	2507	Théorie cont. justice sociale	1	Undergraduate	Science politique	2, 2, 2	2, 2, 2, 2	2, 2	2, 2, 2	Awareness
PSY	1010	Aspects env. et comm. en psy.	1	Undergraduate	Psychologie	1, 1, 1	1, 1, 0, 0	0, 0	0, 1, 0	Awareness



Course	Name	Description	# of Sections	Level	Department	4 Key Competencies				Integration into Sustainability
						Systems Thinking	Anticipatory	Normative	Strategic	
SAN	1001	Anatomie, physiologie animales	1	Undergraduate	Sciences animales	1, 0, 1	1, 0, 0, 0	0, 0	0, 1, 0	Awareness
SAN	1002	Principes fondament. sc. anim.	2	Undergraduate	Sciences animales	1, 1, 1	2, 1, 0, 1	1, 1	1, 0, 0	Awareness
SAN	1003	Productions animales durables	1	Undergraduate	Sciences animales	3, 2, 2	3, 1, 2, 3	1, 2	1, 2, 1	Introductory
SAN	2201	Comportement, bien-être animal	1	Undergraduate	Sciences animales	2, 2, 2	2, 2, 1, 2	1, 2	1, 1, 1	Advanced
SAN	2301	Product. animales biologiques	1	Undergraduate	Sciences animales	2, 2, 2	2, 2, 1, 2	2, 1	2, 1, 1	Advanced
SAN	3102	Gest. techn.-écon. entr. lait.	1	Undergraduate	Sciences animales	3, 3, 3	2, 3, 3, 3	1, 3	3, 3, 3	Advanced
SAN	3202	Production laitière	2	Undergraduate	Sciences animales	1, 2, 2	1, 3, 1, 3	1, 2	3, 2, 3	Awareness
SAN	3204	Production porcine	1	Undergraduate	Sciences animales	1, 1, 1	1, 1, 1, 1	1, 1	1, 1, 1	Introductory
GBO	1040	Matériau bois: transf., util.	1	Undergraduate	Sciences du bois	2, 2, 2	2, 2, 1, 2	0, 2	1, 0, 0	Introductory
SIN	7013	Famille et pratique infirmière avancée	1	Graduate	Sciences infirmières	2, 2, 2	1, 1, 0, 1	1, 1	1, 1, 1	Introductory
SIO	1000	Systèmes & technol. inform.	3	Undergraduate	Système information organisat.	2, 1, 1	2, 1, 0, 2	1, 1	1, 1, 2	Awareness
SIO	6009	Système d'information	3	Graduate	Système information organisat.	1, 0, 1	1, 1, 0, 1	1, 1	0, 0, 0	Awareness
SLS	4000	Sc. environnementales du sol	1	Undergraduate	Sols	2, 2, 2	3, 3, 2, 1	1, 2	1, 1, 0	Advanced
SOC	1100	Stratification classe sociale	1	Undergraduate	Sociologie	2, 2, 1	1, 0, 2, 1	0, 2	0, 1, 1	Advanced
SOC	2114	Environnement et société	2	Undergraduate	Sociologie	3, 3, 3	3, 2, 3, 2	1, 3	2, 3, 3	Advanced
SOC	2120	Sociologie innovation technol.	2	Undergraduate	Sociologie	3, 3, 3	3, 3, 3, 1	1, 1	1, 1, 0	Introductory

Course	Name	Description	# of Sections	Level	Department	4 Key Competencies				Integration into Sustainability
						Systems Thinking	Anticipatory	Normative	Strategic	
STA	2012	Aliments et conservation	1	Undergraduate	Science, technologie aliments	3, 3, 1	2, 0, 0, 2	0, 1	2, 1, 1	Awareness
STC	3900	Impact des sc. & technologies	1	Undergraduate	Sciences, techniques civiles.	1, 0, 0	1, 1, 1, 1	0, 1	0, 0, 0	Awareness
<b>Total Course Sections</b>			<b>383</b>							