

# SUSTAINABILITY COURSE CATALOGUE

OFFICE OF SUSTAINABILITY

Course Code and Title	Faculty/School	Department	Level	Description	Type
ABIZ 0440 Agricultural Economics & Marketing 1	Agricultural and Food Sciences	Agribusiness and Ageconomics	UG	(Formerly 061.044) Introduction to key economic concepts and business principles and their application to Canadian agribusiness.	Sustainability Related
ABIZ 0450 Agricultural Economics & Marketing 2	Agricultural and Food Sciences	Agribusiness and Ageconomics	UG	(Formerly 061.045) The application of economic analysis in the study of marketing: concepts, policy, practices and institutions. Prerequisite: ABIZ 0440 (or 061.044).	Sustainability Related
ABIZ 0690 Agricultural Finance and Credit	Agricultural and Food Sciences	Agribusiness and Ageconomics	UG	(Formerly 061.069) Application of financial management concepts in evaluating investment options and risk in farm and agribusiness decisionmaking. Prerequisite: ABIZ 0460 (or 061.046).	Sustainability Related
ABIZ 0710 Agricultural Policy	Agricultural and Food Sciences	Agribusiness and Ageconomics	UG	(Formerly 061.071) Review of agriculture, international trade and food safety policies affecting the production and distribution of agricultural commodities and food products.	Sustainability Related
ABIZ 0720 Farm Business Management	Agricultural and Food Sciences	Agribusiness and Ageconomics	UG	(Formerly 061.072) Application of decision making principles in terms of farm production, finance, and marketing. Prerequisites ABIZ 0470 (or 061.047).	Sustainability Related
ABIZ 0730 Financial Risk Management	Agricultural and Food Sciences	Agribusiness and Ageconomics	UG	(Formerly 061.073) Various approaches to managing market risk will be studied. This includes forward pricing, hedging and options along with insurance, diversification and technology to manage production risk. Prerequisites: ABIZ 0470 (or 061.047) or 061.047); or Pre or Corequisite: ABIZ 0450 (061.045).	Sustainability Related
ABIZ 1010 Economics of World Food Issues and Policies	Agricultural and Food Sciences	Agribusiness and Ageconomics	UG	(Formerly 061.101) Determinants of global food consumption, production and the factors underpinning food security and malnutrition. The importance of international trade in balancing countries' supply and demand for food, examination of trade barriers and institutions facilitating trade. Not to be held with the former 061.210.	Sustainability Related
ABIZ 2210 Transportation Principles	Agricultural and Food Sciences	Agribusiness and Ageconomics	UG	(Formerly 061.221) Demand forecasting, cost analysis, regulation of carriers, role of transport in economic development, project appraisal, and transport planning. Not to be held with the former 061.351 or 018.354. Also offered as SCM 2210 by the Department of Supply Chain Management.	Sustainability Related
ABIZ 2390 Introduction to Environmental Economics	Agricultural and Food Sciences	Agribusiness and Ageconomics	UG	(Formerly 061.239) Economics of management of water, air and land resources quality, and the economics of conservation. The economic implications of environmental standards, licensing criteria and pollution charges will be illustrated by current issues. Students may not hold credit for both ABIZ 2390 (061.239) and ECON 2390 (or 018.239) Prerequisite: [A grade of "C" or better in ECON 1010 or ECON 1011 or the former ECON 1200 (or 018.120) or the former ECON 1201 (018.120)] or [a grade of "C" or better in both ECON 1210 (or ECON 1211 or the former 018.1210 and ECON 1220 (or ECON 1221) or the former 018.122)].	Sustainability Related
ABIZ 2510 Introduction to Agricultural and Food Marketing	Agricultural and Food Sciences	Agribusiness and Ageconomics	UG	(Formerly 061.251) Economic principles and institutions involved in the Canadian agricultural and food marketing system. Farm and Agribusiness applications. Prerequisite: [A grade of "C" or better in ECON 1010 or ECON 1011 or the former ECON 1200 (018.1200) or the former ECON 1201 (018.120)] or [a grade of "C" or better in both ECON 1210 (or ECON 1211 or the former 018.121) and ECON 1220 (or ECON 1221 or the former 018.122)].	Sustainability Related
ABIZ 3080 Introduction to Econometrics	Agricultural and Food Sciences	Agribusiness and Ageconomics	UG	(Formerly 061.308) The application of statistical tools, especially regression analysis, for estimating economic relationships and testing economic hypotheses through the use of spreadsheets and data sets. Students may not hold credit for both ABIZ 3080 and the former 018.344. Prerequisite: STAT 2000 (or 005.200) or equivalent, or a grade of "C" in ECON 3170 (or 018.317) and ECON 1010 and ECON 1020 or the former ECON 1200. Also offered as ECON 3180 by the Department of Economics.	Sustainability Related
ABIZ 3510 Economics of Food Policy	Agricultural and Food Sciences	Agribusiness and Ageconomics	UG	Economics of market intervention; trade policy analysis, and agricultural protection, exports, subsidies, tariffs, quotas; intermediate versus final goods; currency exchange rates and agricultural trade policy; trade agreements. Not to be held with 061.350, 061.418 or ABIZ 3500. Prerequisites: ECON 2010 or the former ECON 2450.	Sustainability Related
ABIZ 3530 Farm Management	Agricultural and Food Sciences	Agribusiness and Ageconomics	UG	(Formerly 061.353) Management decisions and business planning as they relate to farm production, marketing and financing activities. Identifying potential markets; comparative advantage analysis; organizational form and contractual requirements; alternative marketing and production strategies; financing production and marketing activities; develop farm business plan. Prerequisite: ABIZ 1000 (or 061.100) or 061.250.	Sustainability Related
ABIZ 3540 Financial Risk Management	Agricultural and Food Sciences	Agribusiness and Ageconomics	UG	(Formerly 061.354) Risk expected returns and valuation of capital; capital budgeting and dealing with risk; derivative securities and financial risk management; agricultural production and management of risk; agricultural risk management and public policy. Prerequisites: STAT 1000 (or 005.100) and (ABIZ 1000 (or 061.100 or 061.250) or ABIZ 2510 (or 061.251)).	Sustainability Related
ABIZ 3550 Environmental Policy	Agricultural and Food Sciences	Agribusiness and Ageconomics	UG	(Formerly 061.355) Environmental policy development and enactment in Canada; federal and provincial review processes; sociopolitical aspects of policy development; chemical and pesticide licensing procedures and environmental effects monitoring; environmental policy and sustainability; case studies; discussion of various policies; ethics of development, preservation and conservation; environmental risk management. Prerequisite: ABIZ 2390 (or 061.239) or ECON 2390 (or 018.239).	Sustainability Focused
ABIZ 7140 Resource Efficiency and Allocation in Agriculture	Agricultural and Food Sciences	Agribusiness and Ageconomics	G	(Formerly 061.714) Seminar on research issues in production economics related to technological change, risk and uncertainty, management and farm growth.	Sustainability Related
ABIZ 7270 Research Methodology	Agricultural and Food Sciences	Agribusiness and Ageconomics	G	(Formerly 061.727) Critical discussion of scientific methodology and the scientific status of agricultural economics. Discussion of methodological issues as they relate to the research process in agricultural economics.	Sustainability Related
ABIZ 7310 Agricultural Economic Development	Agricultural and Food Sciences	Agribusiness and Ageconomics	G	(Formerly 061.731) Theory and policy of agricultural development in underdeveloped countries: problems of stimulating growth in agriculture and evaluation of alternative approaches to economic development of agriculture. Prerequisite: consent of instructor.	Sustainability Related
ABIZ 7330 Transportation Economics and Research	Agricultural and Food Sciences	Agribusiness and Ageconomics	G	(Formerly 061.733) Rate determination and cost analysis for different modes of transportation; transportation issues in Canadian agriculture; and research techniques in transportation problems. Prerequisite: consent of instructor.	Sustainability Related
ABIZ 7350 Regional Development	Agricultural and Food Sciences	Agribusiness and Ageconomics	G	(Formerly 061.735) Review policy, goals, theories, methods and applications relevant to analyzing Canadian and developing country rural development, regional economic growth and project evaluation.	Sustainability Related
ABIZ 7380 Agricultural Policy	Agricultural and Food Sciences	Agribusiness and Ageconomics	G	(Formerly 061.738) Bearing of economic theory on agricultural policy: relevance of allocative efficiency, distributive equity and other criteria, and economic evaluation of alternative policies.	Sustainability Related
ABIZ 7430 Advanced Theory of Resource Economics	Agricultural and Food Sciences	Agribusiness and Ageconomics	G	(Formerly 061.743) Economic theory of the development and management of natural resources. Application of capital theory, investment theory, the theory of externalities and decision making theories to resource utilization and management. A strong background in microeconomics is required. Also offered as ECON 7430 by the Department of Economics.	Sustainability Related
ACS 0112 Abuse (Family Violence/Sexual Abuse)	Extended Education	Aboriginal Focus Program	UG	This course will explore the impact of sexual abuse and family violence on individuals, families and communities.	Sustainability Related
ACS 0122 Colonialism and Its Effects	Extended Education	Aboriginal Focus Program	UG	This course will look at colonialism in North America and the various responses Aboriginal societies have taken to battle its effects including those that resulted in conflicts.	Sustainability Related
ACS 0126 Counselling in an Aboriginal Community	Extended Education	Aboriginal Focus Program	UG	This course will prepare learners to provide counselling services in the unique context of an Aboriginal community, particularly when that community is their own. It will explore the dynamics of the contemporary Aboriginal community, its strengths and challenges, and provide insight into what is needed to effectively guide individual, family and community growth and change.	Sustainability Related
ACS 0310 Development and Practice of Counselling Skills Level 2	Extended Education	Aboriginal Focus Program	UG	Progressive practice of the skills learned in both Introduction to Counselling and Development and Practice Level 1 with specific reference to helping Aboriginal clients develop strategies for action, goal setting, planning and carrying out culturally relevant strategies for change that meet the clients' needs. Prerequisite: a grade of C or better in ACS 0210 or permission of Program Director.	Sustainability Related
ADED 0150 Adult Learning and Development	Extended Education	Adult Education	UG	The content of this course reflects the extensive knowledge in the area of lifespan development and its importance for practitioners and for practice in adult education. It examines development, learning and change and their relationship to andragogy. Emphasis is placed on the importance of considering both contextual factors and individual differences when examining the process of learning in adults.	Sustainability Related
ADED 0170 Foundations of Adult Education	Extended Education	Adult Education	UG	This course examines the history of adult education from both a worldwide and local perspective. You will analyze the underlying philosophical, sociological and political foundations of adult education. You will then apply insights gained from this study to contemporary adult education issues of interest to you.	Sustainability Related
ADED 0920 Topics in Recent Developments in Adult and Continuing Education	Extended Education	Adult Education	UG	Select topics related to recent developments in Adult Education will be studied. Content will vary from year to year.	Sustainability Related
AGEC 2370 Principles of Ecology	Agricultural and Food Sciences	General Agriculture	UG	(Formerly 065.237) Principles of ecology at the individual, population, community, and ecosystem levels. This course is also given in the Faculty of Science as BIOL 2300 (formerly BOTN 2370 or ZOOL 2370). It is the normal prerequisite to other courses in ecology. Not to be held with BIOL 2390 (formerly BOTN 2280 or 001.228) or ZOOL 2290 or BIOL 3260 (formerly BOTN 2291 or 022.229, or BOTN 3280 formerly BOTN 2370 or BOTN 2371 (or 001.237), or ZOOL 2370 or ZOOL 2371 (or 022.237). Prerequisite: A grade of "C" in BIOL 1020 or BIOL 1021 or ZOOL 1030 or 1031 or the former 071.125. Pre- or co-requisite: STAT 1000 or STAT 1001.	Sustainability Related
AGEC 3510 Agroecology	Agricultural and Food Sciences	General Agriculture	UG	(Formerly 065.351) Examination of how ecological principles and processes apply to, and function in, managed ecosystems, with emphasis on agricultural ecosystems. Influence of agricultural practices on populations and ecosystem function. Ecological concepts as tools in managing systems. Pre or corequisite: AGECE 2370 (or 065.237) or BIOL 2300 (formerly BOTN 2370 or 001.237) or ZOOL 2370 (or 022.237).	Sustainability Related
AGEC 4510 Applications in Agroecology	Agricultural and Food Sciences	General Agriculture	UG	(Formerly 065.451) Integration of information on ecological principles, agricultural production technology and environmental and socioeconomic issues through in-depth studies of issues and problems in agro ecology. Prerequisite: AGECE 3510 (or 065.351).	Sustainability Related
AGRI 1010 Business Communication	Agricultural and Food Sciences	General Agriculture	UG	Strengthen the thinking, writing, speaking and listening skills required by IEAP students to succeed in the agricultural, food science or agribusiness world. Students will develop an understanding of cultural influence in communication tasks used in academic and workplace settings. Prerequisite: Must be enrolled in the Internationally Educated Agriologists Program.	Sustainability Related
AGRI 1500 Natural Resources and Primary Agricultural Production	Agricultural and Food Sciences	General Agriculture	UG	(Formerly 065.150) Introduces students to natural resources and climate, primary production of crops and livestock, production and resource economics and rural society. A model of the entire agrifood system will be used to show interrelationships among disciplines, processes, etc.	Sustainability Related
AGRI 1510 Production, Distribution and Utilization of Agricultural Products	Agricultural and Food Sciences	General Agriculture	UG	(Formerly 065.151) Introduction to the aspects of agriculture that follow primary production and includes confined animal production and a presentation of a model of the entire agrifood system. Special emphasis on processing, marketing, transportation and food safety. Laboratory sessions will use small groups to examine problem based case studies.	Sustainability Related
AGRI 2200 Principles of Plant and Animal Physiology for Engineers	Agricultural and Food Sciences	General Agriculture	UG	(Formerly 065.220) Plant and animal physiology as affected by environment for use in the design of agricultural machines, structures and food processes for biological products; models of simulation of plant and animal growth. Prerequisite: BIOE 2590 (or 034.259) or the former 071.201.	Sustainability Related
AGRI 4010 Practising the Profession of Agriology II	Agricultural and Food Sciences	General Agriculture	UG	This course will cover the role of a practising agriologist in Manitoba, with an emphasis on professional ethics and responsibilities, regulations of the agriculture profession in Canada, and the culture of the work environment. Laboratory sessions focus on guest speakers and tours of companies and agencies in the agriculture industry. Prerequisite: Students must be enrolled in the Internationally Educated Agriologists Program.	Sustainability Related
ANSC 0600 Animal Health and Welfare	Agricultural and Food Sciences	Animal Science	UG	(Formerly 035.060) This course will discuss the common livestock and poultry diseases of the prairie provinces. Emphasis will be placed on prevention through management and health programs but treatment of specific diseases will be addressed. Animal welfare as it relates to commercial animal production will be discussed. Prerequisite: ANSC 0420 (or 035.042) or equivalent.	Sustainability Related
ANSC 3520 Animal Reproduction	Agricultural and Food Sciences	Animal Science	UG	(Formerly 035.352) The comparative anatomy and physiology of reproduction of farmed animals will be emphasized. Focus will be on the natural synchronization of reproductive processes and the potential to regulate and improve reproductive efficiency. Prerequisite: ANSC 2510 (or 035.251).	Sustainability Related
ANSC 3530 The Animal and Its Environment	Agricultural and Food Sciences	Animal Science	UG	(Formerly 035.353) Deals with how the animal is influenced by its environment to affect health, welfare and performances. Principles of farmed animal behavior, welfare and behavioral management, health, and facility design and modification will be considered in the context of animal/environment interactions. Co requisite: ANSC 2520 (or 035.252).	Sustainability Related
ANSC 4410 Grassland Agriculture: Plant, Animal and Environment	Agricultural and Food Sciences	Animal Science	UG	(Formerly 035.441) Interrelationships between the biological components of grassland agriculture as they relate to forage production on the Canadian Prairies. Topics include utilization by wild and domestic animals, plant community relationships and role of forages in multiple land use planning. This course also given in Plant Science as PLNT 4410.	Sustainability Related
ANSC 7220 Genetic Principles of Animal Improvement	Agricultural and Food Sciences	Animal Science	G	(Formerly 035.722) Designed for the development of a framework of theory for the study of the genetics of populations. Changing gene frequency. Genetic and environmental subdivision of the phenotypic variance. Principles of selection. Prerequisite: ANSC 3500 (or 035.350) or the former 035.310 or equivalent.	Sustainability Related
ANSC 7350 Advanced Reproductive Physiology, Male	Agricultural and Food Sciences	Animal Science	G	(Formerly 035.736) A lecture seminar course on sexual function and testicular physiology in males of livestock species; environmental factors influencing reproductive efficiency; recent developments in semen preservation and artificial insemination.	Sustainability Related
ANTH 1220 Cultural Anthropology	Arts	Anthropology	UG	(Formerly 076.122) The comparative study of human societies and cultures, including language, economic and political organization, family and kinship, ritual and belief systems, cultural stability and change. Students may not hold credit for ANTH 1220 (076.122) and any of: ANTH 1221 (076.122) or ANTH 1520 (076.152) or the former 076.120.	Sustainability Related

ANTH 1520 Critical Cultural Anthropology	Arts	Anthropology	UG	(Formerly 076.152) An introduction to social cultural anthropology that critically examines production and exchange systems, age, gender, kinship and other social distinctions, belief systems, politics, and interactions between cultural systems. Learning and performance assessment is based upon supervised reading and essay writing. Students may not hold credit for ANTH 1520 (076.152) and any of: ANTH 1220 (076.122) or ANTH 1221 (076.122) or the former 076.120.	Sustainability Related
ANTH 2011 Langage et culture	Arts	Anthropology	UG	(Ancien 076.201) Considération générale de la nature du langage et des interrelations entre le langage et les autres aspects de la culture. Corrélations socioculturelles des variations linguistiques. Ethnographie de la communication. Origine et évolution du langage. On ne peut se faire créditer ANTH 2011, ANTH 2010 (076.201) et ANTH 2370 (076.237). Prérequis : une note minimale de C dans un de ANTH 1221, ANTH 1220 (076.122), ANTH 1520 (076.152) ou 076.120, ou l'autorisation écrite de la professeure ou du professeur.	Sustainability Related
ANTH 2020 Relatedness in a Globalizing World	Arts	Anthropology	UG	Anthropological approaches to diverse practices of human relatedness across cultures and over time, including 21st century reconfigurations or marriage, family, reproduction and kinship.	Sustainability Related
ANTH 2060 European Archaeology	Arts	Anthropology	UG	(Formerly 076.206) This course will survey the archaeological record of Europe from the earliest human occupation through the rise of early cities and complex societies. Case studies will be used to examine the social, political, economic, and technological adaptations of early human societies in the region. Prerequisite: [a grade of "C" or better in one of: ANTH 1210 (076.121) or ANTH 1211 (076.121) or the former 076.120] or written consent of instructor.	Sustainability Related
ANTH 2071 Religions amérindiennes et inuites	Arts	Anthropology	UG	(Ancien 076.207) Étude comparative et interprétative des valeurs, croyances et pratiques religieuses propres aux traditions autochtones. Attention particulière accordée aux religions traditionnelles, à l'impact du christianisme sur ces religions, et à l'émergence de la spiritualité autochtone contemporaine en mettant l'accent sur l'expérience et les structures, fonctions et significations des mythes, récits et rituels qui composent l'idéologie religieuse autochtone.	Sustainability Related
ANTH 2230 Anthropology of Travel and Tourism	Arts	Anthropology	UG	(Formerly 076.223) Anthropological approaches to the study of cultural practices and phenomena of travel and tourism. Travel is examined in various social, historical, and cultural contexts as a way of seeing and experiencing the world. Emphasis is placed on the intersection of culture, colonialism, capitalism, and globalization, with practices of travel, including mass tourism. Prerequisite: [a grade of "C" or better in one of: ANTH 1220 (076.122) or ANTH 1221 (076.122) or the former 076.120] or written consent of instructor.	Sustainability Related
ANTH 2240 Plagues and People	Arts	Anthropology	UG	Examines selected plagues in evolutionary, ecological, and epidemiological context, and considers the complex biological, social, and economic expressions for and include epidemics and processes of socioeconomic and cultural change. Prerequisite: [a grade of "C" or better in one of: ANTH 1220 (076.122) or ANTH 1221 (076.122) or ANTH 1520 (076.152) or the former 076.120] or written consent of instructor.	Sustainability Related
ANTH 2300 Anthropology of Childhood	Arts	Anthropology	UG	Anthropological approaches to the study of children and childhood. Childhood is examined as a social and historical construction, and children are analyzed as active contributors to their social worlds. Crosscultural ethnographic material relating to children and youth is critically read and discussed. Prerequisite: [a grade of "C" or better in one of: ANTH 1220 (076.122) or ANTH 1221 (076.122) or ANTH 1520 (076.152) or the former 076.120] or written consent of instructor.	Sustainability Related
ANTH 2430 Ecology, Technology and Society	Arts	Anthropology	UG	(Formerly 076.243) Ecological analysis of the interplay of socio-political and technological processes in different types of societies. Focus upon the ecological side-effects and selected technologies, economic mechanisms and political institutions. Students may not hold credit for both ANTH 2430 (076.243) and ANTH 2500 (076.250). May not be used for Major or Minor in Anthropology.	Sustainability Related
ANTH 2470 Anthropology of Mass Communication	Arts	Anthropology	UG	(Formerly 076.247) This course focuses on media production and dissemination and on images of the world created by media. Media practices and products are addressed in relation to the formation of social relations and identities, the shaping of peoples' sense of time and space, and media's role in the construction of communities and in processes of socioeconomic and cultural change. Prerequisite: [a grade of "C" or better in one of: ANTH 1220 (076.122) or ANTH 1221 (076.122) or ANTH 1520 (076.152) or the former 076.120] or written consent of instructor.	Sustainability Related
ANTH 2500 Culture, Environment, and Technology	Arts	Anthropology	UG	(Formerly 076.250) Study of ecological systems, focusing on processes of adaptation in societies differing in organization and in views of technology. Demographic and technological changes are examined in relation to cultural, political and ideological factors. Students may not hold credit for both ANTH 2500 and ANTH 2430. Prerequisite: [a grade of "C" or better in one of: ANTH 1220 or ANTH 1221 or ANTH 1520] or written consent of instructor.	Sustainability Related
ANTH 2510 Anthropology of Economic Systems	Arts	Anthropology	UG	(Formerly 076.251) A comparative study of factors bearing upon production, exchange, and consumption of goods, practices and ideas in varying social contexts. The course also examines the articulation of economic systems in the global political economy. Prerequisite: [a grade of "C" or better in one of: ANTH 1220 (076.122) or ANTH 1221 (076.122) or ANTH 1520 (076.152) or the former 076.120] or written consent of instructor.	Sustainability Related
ANTH 2550 Culture and the Individual	Arts	Anthropology	UG	(Formerly 076.255) The study of the individual in relation to social, psychological, biological, and cultural functions, and social and cultural institutions. Emphasis is placed on enculturation and lifecycle rituals. Students may not hold credit for both ANTH 2550 (076.255) and ANTH 2551 (076.255). Prerequisite: [a grade of "C" or better in one of: ANTH 1220 (076.122) or ANTH 1221 (076.122) or ANTH 1520 (076.152) or the former 076.120] or written consent of instructor.	Sustainability Related
ANTH 2560 Anthropology of Disease	Arts	Anthropology	UG	(Formerly 076.256) Comparative study of cultural factors involved in health/illness: concepts of disease and curing practices. Prerequisite: [a grade of "C" or better in one of: ANTH 1220 (076.122) or ANTH 1221 (076.122) or ANTH 1520 (076.152) or the former 076.120] or written consent of instructor.	Sustainability Related
ANTH 2860 Evolution and Human Diversity	Arts	Anthropology	UG	(Formerly 076.286) An introduction to the interacting roles of heredity, culture and environment in human families and populations. Introduces the biological bases for variation within/between human populations. Students may not hold credit for both ANTH 2860 (076.286) and ANTH 2861. Prerequisite: [a grade of "C" or better in one of: ANTH 1210 (076.121) or ANTH 1211 (076.121) or the former 076.120] or written consent of instructor.	Sustainability Related
ANTH 3200 Anthropology of Food	Arts	Anthropology	UG	Consider the diversity of ways that anthropologists have used food as a productive entry point for understanding culture, society, and human ecology. The course will survey highpoints in the history of the anthropology of food and address current topics such as food security and food movements. Prerequisite: [a grade of "C" or better in one of: ANTH 1220 (076.122) or ANTH 1221 (076.122) or ANTH 1520 (076.152) or the former 076.120] or written consent of instructor.	Sustainability Related
ANTH 3330 Sex and Sexualities	Arts	Anthropology	UG	Comparative approaches to the study of human sexuality and the diversity of sexual expression and identification from a feminist and crosscultural ethnographic perspective. Sex and sexualities are examined as social and cultural constructions, experiences, discourses, identities, and practices located in specific local contexts and shaped by wider social processes including colonialism and globalization. This course is also offered as WOMN 3330. Students may not hold credit for ANTH 3330 or any of: WOMN 3330 or the former ANTH 3350 or WOMN 3500 (156.350) with the topic "Anthropology of Sex and Sexualities." Prerequisite: [a grade of "C" or better in a minimum of three credit hours of Anthropology or Women's and Gender Studies courses] or written permission of instructor.	Sustainability Related
ANTH 3380 Anthropology and Contemporary Social Issues	Arts	Anthropology	UG	(Formerly 076.338) Anthropological perspectives on poverty, social inequality, colonialism, racism, education, ecological degradation and violence. Students may not hold credit for both ANTH 3380 (076.338) and ANTH 3381 (076.338). Prerequisite: [a grade of "C" or better in each of ANTH 2000 (or ANTH 2001) and 3 credit hours from the following: ANTH 2020 or ANTH 2530 (076.253) or ANTH 2831 (076.283) or [a grade of "C" or better in the former ANTH 2390 (076.239) or the former ANTH 2391 (076.239)] or written consent of instructor.	Sustainability Related
ANTH 3500 Peoples of the Arctic	Arts	Anthropology	UG	(Formerly 076.350) Ethnographic survey of the aboriginal peoples of the circumpolar regions of Asia, North America, and Greenland. Attention will be given to the aboriginal and postcontact situations among such peoples. Students may not hold credit for both ANTH 3500 (076.350) and ANTH 3501 (076.350). Prerequisite: [a grade of "C" or better in one of: ANTH 1220 (076.122) or ANTH 1221 (076.122) or ANTH 1520 (076.152) or the former 076.120] or written consent of instructor.	Sustainability Related
ANTH 3550 Canadian Subcultures	Arts	Anthropology	UG	(Formerly 076.355) An anthropological study of dimensions of community, ethnicity, and social class in Canadian society. Students may not hold credit for both ANTH 3550 (076.355) and ANTH 3551 (076.355).	Sustainability Related
ANTH 3720 Demography of Past Populations	Arts	Anthropology	UG	(Formerly 076.372) This course provides students with a basic understanding of demographic methods and techniques applied in analysis of long term changes in the demographic patterns of anthropological populations. Prerequisite: [a grade of "C" or better in one of: ANTH 1210 (076.121) or ANTH 1211 (076.121) or the former 076.120] or written consent of instructor.	Sustainability Related
ANTH 3750 Anthropological Perspectives on Globalization and the WorldSystem	Arts	Anthropology	UG	(Formerly 076.375) An anthropological perspective on the modern worldsystem and the expansion of capitalism into peripheral areas of the world; the transformation of indigenous societies and cultures; the rise of ethnic conflict, protest and resistance; and a comparative examination of selected global and transnational processes. Students may not hold credit for both ANTH 3750 (076.375) and ANTH 3751 (076.375). Prerequisite: [a grade of "C" or better in one of: ANTH 1220 (076.122) or ANTH 1221 (076.122) or ANTH 1520 (076.152) or ANTH 2000 or ANTH 2001 or the former ANTH 2390 (076.239) or the former ANTH 2391 (076.239) or the former 076.120] or written consent of instructor.	Sustainability Related
ANTH 7130 Cultural Ecology	Arts	Anthropology	G	(Formerly 076.713) An examination of the systematic nature of culture and its interrelationships with natural environmental factors.	Sustainability Related
ANTH 7640 Contemporary Anthropological Theory	Arts	Anthropology	G	(Formerly 076.764) Investigation, comparison and evaluation of contemporary approaches to culture theory in the areas of symbolism, social organization and ecology.	Sustainability Related
ANTH 7650 Applied Anthropology	Arts	Anthropology	G	(Formerly 076.765) Investigation of major case studies, research methodologies, intervention strategies, and substantive areas of application in applied anthropology. Topical emphases such as economic development, health care delivery, resettlement schemes, will reflect the interests of the instructor.	Sustainability Related
ANTH 7720 Seminar in Human Adaptability	Arts	Anthropology	G	An intensive study of human population biology in diverse environments inhabited by human populations. Emphasis on selected examples of cultural adaptability as a specifically human mechanism for dissipating stress on the biological system.	Sustainability Related
ANTH 7830 Social Organization	Arts	Anthropology	G	(Formerly 076.783) Selected theories of social organization in cross cultural perspective. Subject matter may include kinship, age grading, territorial groupings, social stratification or ethnicity.	Sustainability Related
ARCG 7090 LEED Core Concepts and Strategies	Architecture	Architecture Interdisciplinary	G	This course provides a comprehensive overview of techniques, approaches, materials and technologies used in creating more sustainable buildings and communities in Canada. It provides an introduction to the LEED Rating System and is formulated as a preparatory course for persons interested in becoming a LEED Green Associate in Canada.	Sustainability Focused
ARCG 7120 ADV RES DES PLN	Architecture	Architecture Interdisciplinary	G	This course is intended to expose research methods pertinent to the study of design and planning. The considerations to be examined may include: Potential research tools and techniques that are pertinent to the exploration of design and planning theory, practice and development; Exploration of emerging research processes and methodologies that inform minority and feminist discourse; Review of the evolution of design and planning methods; Analysis of the relationships between research methods in aligned disciplines as those research methods may inform design and planning understanding.	Sustainability Related
ARCH 7050 Arch Studio 5 and Comprehensive Program Report	Architecture	Architecture	G	Develop design explorations and seek to clarify relations between architectural criteria and the urban/natural environments in national or international contexts. Conceptual, programmatic, material, technological, economic, and political principles and systems employed are to be evident in the Comp. Prog Report.	Sustainability Related
ARCH 7060 Arch Studio 6	Architecture	Architecture	G	The previous term's investigations are further developed into a comprehensive architectural design proposal. The thorough integration of design and programming criteria, with building and environmental systems and assemblies are examined.	Sustainability Related
BGEN 3020 Introduction to Human Genetics	Medicine	Biochemistry and Medical Genetics	UG	(Formerly 137.302) Principles necessary to understand and study genetically influenced malformations, diseases and variation in individuals and in populations. Two terms. Lectures, tutorials and assignments. Not to be held with the former 080.301 or 125.301.	Sustainability Related
BGEN 7120 Laboratory Methods in Human and Medical Genetics	Medicine	Biochemistry and Medical Genetics	G	(Formerly 137.712) A seminar and assignment course covering an outline of the methods currently in use in human and medical genetic diagnostic and research laboratories. The principles of cell culture, cytogenetic, molecular and biochemical genetic techniques that are used in the diagnosis of human genetic disease and the study of human variation will be reviewed. Students will undertake a practical assignment and write a report. Prerequisite: 125.709 or consent of instructor.	Sustainability Related
BGEN 7142 Clinical Genetics 1	Medicine	Biochemistry and Medical Genetics	G	Clinical applications and principles of single gene, multifactorial, non-traditional inheritance teratogenic causes of disease. Focus on the role of the genetic counselor in the clinical setting, including history and practice of genetic counselling, genetic counselling skills and case documentation.	Sustainability Related
BGEN 7144 Clinical Genetics 2	Medicine	Biochemistry and Medical Genetics	G	Clinical application and principles in advance concepts of genetic disease. Focus on the expanded role of the genetic counselor in the clinical setting including application of role playing for genetic counselling students. Prerequisite: BGEN 7142 Clinical Genetics –1.	Sustainability Related
BGEN 7180 Clinical and Molecular Cytogenetics	Medicine	Biochemistry and Medical Genetics	G	(Formerly 137.718) Cytogenetic methodology, chromosome architecture, karyotype interpretation; indications for referral; chromosome syndromes and anomalies; prenatal diagnosis; chromosomal basis of oncogenesis; flow cytometry; immunogenetics; fluorescent in situ hybridization; the application of molecular technology to chromosome analysis. Prerequisite: 125.709 or consent of instructor.	Sustainability Related
BIOE 0222 Precision Agriculture	Engineering	Biosystems Engineering	UG	Precision agriculture is a philosophy of agricultural management that has been enabled by modern technology. This course will examine both the technology and the techniques that can be used to improve the efficiency of agricultural operations by decreasing costs, increasing profits, and decreasing hazards to the environment.	Sustainability Related
BIOE 0600 Farm Machinery	Engineering	Biosystems Engineering	UG	(Formerly 034.060) Operating principles of basic farm implements with emphasis on seed cleaning, seeding, tillage, haying, and harvest machines including their selection, adjustment, efficiency, and cost of operation with respect to test data.	Sustainability Related
BIOE 0690 Water Management	Engineering	Biosystems Engineering	UG	(Formerly 034.069) Surveying including use of the level instrument and steel tape, agricultural drainage, dugouts and wells for farm water supply, irrigation, pump selection, the Water Rights Act.	Sustainability Related
BIOE 0700 Agricultural Buildings and Environments	Engineering	Biosystems Engineering	UG	(Formerly 034.070) Factors that impact the practicality of farm buildings. Components of buildings, including materials and construction techniques. Techniques of maintaining building environments to facilitate production and/or for storage.	Sustainability Related
BIOE 0710 Materials Handling and Electrical Controls	Engineering	Biosystems Engineering	UG	Fundamental concepts and systems approach to storing, conditioning, moving, processing, and metering of agricultural production. Principles and practices of fans, grain drying, dust control, and electrical supply. Students may not hold credit for BIOE 0710 and the former 034.066.	Sustainability Related
BIOE 2090 Machinery for Agricultural Production	Engineering	Biosystems Engineering	UG	(Formerly 034.209) Farm machinery selection. Machine performance. Ownership and operating costs. Analysis of machine functions for safety and efficiency.	Sustainability Related

BIOE 2110 Transport Phenomena	Engineering	Biosystems Engineering	UG	(Formerly 034.211) Principles of heat transfer, solar radiation, psychometrics, molecular diffusion, mass transfer and refrigeration and their application to biosystems. Prerequisite: ENG 3460 (or 130.112).	Sustainability Related
BIOE 2222 Precision Agriculture Concepts and Applications	Engineering	Biosystems Engineering	UG	Precision agriculture is a philosophy of agricultural management that has been enabled by modern technology. This course examines the technology and the techniques of precision agriculture including GPS, GIS, variable rate technologies, and yield monitoring that can be used to improve the efficiency of agricultural operations by decreasing costs, increasing profits, and decreasing hazards to the environment.	Sustainability Related
BIOE 2480 Impact of Engineering on the Environment	Engineering	Biosystems Engineering	UG	Students will gain an understanding of overall sustainability of industrial activities, lifecycle and risk assessment techniques for sustainability, and design improvements to enhance environmental performance of engineered systems. This course will introduce basic methodologies for conducting environmental impact assessments, including physical, chemical, ecological, social and economic impacts. May not be held with the former BIOE 4480. Registration restricted to Biosystems Engineering students.	Sustainability Focused
BIOE 2590 Biology for Engineers	Engineering	Biosystems Engineering	UG	(Formerly 034.259) Provide theories and principles of Biology to engineering students and present applications of biological principles to engineering problems. Fundamental theories involved in cell structure and function, metabolism, genetics and heredity, bacteria and virus structure and function, plant and animal structure and function are covered. An introduction to animal and plant physiology is also provided. Laboratory sessions and assignments focus on the engineering applications of these basic theories and principles to provide a good understanding of the role of Biology in Engineering. Prerequisite: CHEM 1300 (or 002.130).	Sustainability Related
BIOE 2600 Plant and Animal Physiology for Engineers	Engineering	Biosystems Engineering	UG	Plant and animal physiology as affected by environment for use in the design of agricultural machines, structures, and food processes for biological products; models of simulation of plant and animal growth. Prerequisite: BIOE 2590. May not be held with the former AGRI 2200.	Sustainability Related
BIOE 2900 Biosystems Engineering Design 1	Engineering	Biosystems Engineering	UG	An introduction to the professional discipline of Biosystems Engineering and the philosophy of systems thinking that is used by the Biosystems engineer. Students will be introduced to several principles (i.e., safety engineering, human factors engineering and biomimicry) that should be considered during the design process, and will be given opportunity to apply these principles to design problems. The course will provide opportunity for students to develop technical communication, project management and teamwork skills. May not be held with BIOE 2580. Prerequisite: ENG 1430.	Sustainability Related
BIOE 3900 Biosystems Engineering Design 2	Engineering	Biosystems Engineering	UG	An introduction to the use of reverse engineering to deduce design features from previously designed products or systems. Considerations such as design for sustainability and design for disassembly will be discussed. Students will have opportunity to use reverse engineering principles (i) to understand how components fit together to form functional systems, (ii) to identify flaws and (iii) to propose design improvements. Students will learn appropriate techniques for documenting the reverse engineering process. Theory of project management will also be taught and discussed. Prerequisites: (BIOE 2900 or the former BIOE 2580) and ENG 2022 or the former ENG 2020.	Sustainability Focused
BIOE 4412 Design of Light-Frame Building Systems	Engineering	Biosystems Engineering	UG	Light-frame buildings as a structural and environmental system; structural loads in building systems; energy (heat), moisture and air contaminants in building systems; built environment for building occupants. Hands-on labs of constructing small-scale structures for students to gain an understanding of building construction techniques. Prerequisites: BIOE 2110 (or 034.211) and BIOE 3590 (034.359).	Sustainability Related
BIOE 4420 Crop Preservation	Engineering	Biosystems Engineering	UG	(Formerly 034.442) Biological and physical deterioration during storage. Methods of preserving and storing cereals, oilseeds, and other agricultural crops. Prerequisite: BIOE 2110 (or 034.211).	Sustainability Related
BIOE 4440 Bioprocessing for Biorefining	Engineering	Biosystems Engineering	UG	This course will provide students with an understanding of the principles involved in the design of proper conditions for processing of biomaterials for production of high-quality biofuels and bioproducts. The content of this course is built on the principles of physics, transport phenomena, thermodynamics, reaction, kinetics, fermentation, and industrial unit operations. Prerequisite: BIOE 2110 (or 034.211). Pre-requisite: BIOE 3320 (or 023.320) or 024.320.	Sustainability Related
BIOE 4460 Air Pollution Assessment and Management	Engineering	Biosystems Engineering	UG	Air pollutant sources and characteristics, their impact on the environment, their behaviour in the atmosphere. Methods of sampling and measurement and the basic technological alternatives available for separation/removal and control. Particular problems of regional interest are discussed. Corequisites: CIVL 2790 (or 023.279) or MECH 2262 (or MECH 2260 or 025.226).	Sustainability Related
BIOE 4500 Water Management	Engineering	Biosystems Engineering	UG	(Formerly 034.450) Introduction to the design of irrigation and drainage systems. Topics in irrigation include sprinklers, laterals, mainline and pumps. Drainage topics cover both the surface and subsurface systems. Analysis of precipitation and runoff. Environmental impacts of water management. Offered alternate years.	Sustainability Related
BIOE 4520 Crop Preservation and Handling	Engineering	Biosystems Engineering	UG	(Formerly 034.452) Interaction of biological and physical factors related to methods of preserving, storing, and handling cereals, oilseeds, and other agricultural crops. Offered alternate years.	Sustainability Related
BIOE 4590 Management of By-Products from Animal Production	Engineering	Biosystems Engineering	UG	Topics covered include solid and liquid manure, manure characteristics, manure collection, storage, land application and utilization, biological treatment, design of equipment and facilities for manure handling. Environment issues, such as odour and water pollution associated with manure management will also be discussed. Prerequisites: CIVL 2790 (or 023.279) or MECH 2262 (or MECH 2260 or 025.226).	Sustainability Related
BIOE 4600 Design of Water Management Systems	Engineering	Biosystems Engineering	UG	(Formerly 034.460) To introduce the basic theoretical principles in the design of irrigation and drainage systems. Topics covered include the determination of irrigation depth and interval, evapotranspiration, measurement and analysis of precipitation, design of sprinkler and drip irrigation systems, selection of pumps, surface and subsurface drainage design, water quality issues, salinity management, and the environmental impact of water management practices. Corequisite: SOIL 4060 (or 040.406) or CIVL 3730 (or 023.373) or consent of instructor.	Sustainability Related
BIOE 4610 Design of Assistive Technology Devices	Engineering	Biosystems Engineering	UG	(Formerly 034.461) Application and design of technology for individuals with disabilities; emphasizing the development of the requisite knowledge, skills, and attitudes to evaluate, design, and implement client-centred assistive technology. A multidisciplinary approach to learning and applying knowledge will be emphasized with engineering and medical rehabilitation students collaborating on a design project. Prerequisite: BIOL 1412 (or ZOO 1320 or 022.132) or 023.377.	Sustainability Related
BIOE 4620 Remediation Engineering	Engineering	Biosystems Engineering	UG	The theoretical basis for the engineering design of different remediation technologies to treat contaminated soil and groundwater will be introduced. Methods for site characterization, monitoring of progress in remediation, and modeling of the remediation process will be presented. Different methods such as soil washing, air sparging, bioremediation, phytoremediation, constructed wetlands, electrokinetic remediation, reactive barriers will be discussed. Prerequisite: CIVL 2790 (or 023.279) or MECH 2262 (or MECH 2260 or 025.226).	Sustainability Related
BIOE 4630 Pollution Prevention Practices	Engineering	Biosystems Engineering	UG	To give students an understanding of pollution prevention as it relates to solids and hazardous waste management, air and water pollution, energy usage, and resource depletion. To evaluate practices on improved manufacturing operations, present fundamentals of pollution prevention economics, examine waste minimization incentives, design improvements to existing systems, and investigate overall sustainability of industrial practices. Prerequisite: CIVL 2790 (or 023.279) or MECH 2262 (or MECH 2260 or 025.226).	Sustainability Focused
BIOE 4640 Bioengineering Applications in Medicine	Engineering	Biosystems Engineering	UG	This course surveys bioengineering applications and medicine from a clinical engineering perspective. Topics include: clinical engineering practice; device development legislation; biomedical sensors; biosensors; biomaterials and biocompatibility; as well as the principles of design for medical imaging equipment. Prerequisites: BIOL 1410 (or ZOO 1320 or 022.132) and BIOL 1412 (or ZOO 1330 or 022.133) and BIOE 3320 (0343.332).	Sustainability Related
BIOE 4650 Textiles in Healthcare and Medical Applications	Engineering	Biosystems Engineering	UG	This course provides students with an introduction to medical textiles and healthcare products used in current practices, as well as fundamentals for designing textile products and devices that improve the health and quality of life of human beings. The course includes both basic topics related to healthcare and medical textiles (i.e., materials and structures, nanofibers for medical uses, comfort and health problems with textiles, biocompatibility and biostability issues) and applications of textile products for healthcare and medical end uses (i.e., protective and hygiene textiles, external devices, tissue engineering and intelligent/smart textiles). May not be held with TXSC 3500 or TXSC 4500. Prerequisite: BIOE 2590. Pre or Corequisite: BIOE 3320.	Sustainability Related
BIOE 4700 Alternative Building Design	Engineering	Biosystems Engineering	UG	This course will provide students with experience in the design of structures that utilize natural and green building materials and techniques. Students will get hands-on lab experience with various natural building materials such as straw, straw light clay, cob and stackwall. Prerequisites: BIOE 3590 (or 034.359) or CIVL 3770 (or 023.377).	Sustainability Related
BIOE 7140 - Advanced Irrigation and Drainage	Engineering	Biosystems Engineering	G	(Formerly 034.714) Selected advanced problems and new developments in irrigation and drainage. Interrelationships between irrigation and drainage and the environment. Prerequisite: consent of instructor.	Sustainability Related
BIOE 7180 - Bioprocessing	Engineering	Biosystems Engineering	G	This course allows students with a background in either biological sciences or engineering to gain an understanding of biochemical engineering processes. Topics include production of biofuels, bioplastics, biopharmaceuticals, and processing technologies. This course is also offered in the Department of Microbiology as MBIO 7180. BIOE 7180 is not to be held with MBIO 7180.	Sustainability Related
BIOE 7230 - Advanced Topics on Light-Frame	Engineering	Biosystems Engineering	G	(Formerly 034.723) Structural and environmental design and analysis of light-frame buildings. Topics include: loads in light-frame buildings; frame design; construction management; environmental control in light-frame buildings; and structure-environment interactions. Prerequisite: consent of instructor.	Sustainability Related
BIOE 7320 - Membrane Processes for Water	Engineering	Biosystems Engineering	G	(Formerly 034.732) Principles of membrane filtration, classification, design and manufacture. Principle mechanisms of mass transport to the membrane surface and particle/solute rejection. Investigation of membrane bio-fouling and bio-film control strategies. Fundamentals of reverse osmosis, nano-, ultra-, and micro-filtration process design and operation. Practical applications of membranes in the area of water and wastewater treatment. Innovative and novel bio-reactor designs utilizing membrane filtration for environmental reclamation.	Sustainability Related
BIOL 1010 Biology: Biological Diversity and Interaction	Science	Biological Sciences	UG	(Formerly 071.101) An introduction to biological diversity including prokaryotes, protists, fungi, plants and animals; the form and function of plants and animals and basic concepts of ecology. May not be used for credit in a Major or Honours program in the Biological Sciences. Not to be held with BIOL 1011, BIOL 1030, BIOL 1031, the former 071.125, or 071.201. Prerequisite: one of 12 or 405 Mathematics course (50%), or equivalent.	Sustainability Related
BIOL 1300 Economic Plants	Science	Biological Sciences	UG	(Formerly BOTN 1010, 001.101) A survey of economically important plants and their products. The history of plant use, plants in folklore and medicine, fermentation and viticulture, domestication of plants, and forestry are the major topics covered. Chemical, structural, and nutritional aspects of plant products are also discussed. Not to be held with the former 001.206 or 001.233.	Sustainability Related
BIOL 1340 The State of the Earth's Environment: Contemporary Issues	Science	Biological Sciences	UG	(Formerly 071.134) A presentation of contemporary environmental issues focusing on the scientific basis of problems caused by the growth of human populations; use and depletion of resources; pollution, and damage to the environment. The current state of our knowledge bases will be discussed, along with improvements in them that may be necessary. The course will consider needs for action, priorities, and opportunities. May not be used to meet a program requirement of an Honours or Major program in the Biological Sciences. Not to be held with ENVR 1000 (128.100).	Sustainability Related
BIOL 2380 Introductory Toxicology	Science	Biological Sciences	UG	(Formerly BOTN 2180, 001.218, ZOO 2180, 022.218) A survey of general principles underlying the effects of toxic substances on biological systems, including consideration of the history, scope and applications of toxicology, the mechanisms of toxic action, and some major types of toxicants. This course is also taught in Environmental Science as ENVR 2180 (128.218), and in Agriculture as AGRI 2180 (065.218). Not to be held with BIOL 2381, BIOL 2382 (BOTN 2190, ZOO 2190, 001.219, 022.219), ENVR 2190 (128.219), or AGRI 2190 (065.219). Prerequisites: one of BIOL 1030, BIOL 1031, or the former 071.125 (C); and one of CHEM 1310, CHEM 1311 (002.131), or CHEM 1320 (002.132) (C).	Sustainability Related
BIOL 2390 Introductory Ecology	Science	Biological Sciences	UG	(Formerly BOTN 2280, 001.228, ZOO 2280, 022.228) The course involves a study of the interrelationships of living organisms (including human) with each other and with their environment. It is not normally acceptable as a prerequisite to other courses in ecology. Not to be held with BIOL 2300 (BOTN 2370, ZOO 2370, 001.237, 022.237), BIOL 2301 (BOTN 2371, ZOO 2371), or AGEC 2370 (065.237). Prerequisite: one of BIOL 1010, BIOL 1030, BIOL 1031, or the former 071.125 (C).	Sustainability Related
BIOL 3250 Lichens and Bryophytes	Science	Biological Sciences	UG	(Lab Required) The biology, evolution, and ecology of lichens and bryophytes. Emphasis is placed on the role of lichens and bryophytes in the ecosystem, gene flow, animal interactions, coevolution, secondary compounds, and species identification. Not to be held with BIOL 3240 (BOTN 3260, 001.326) or BIOL 4246 (BOTN 4050, 001.405). Prerequisite: BIOL 1030 or BIOL 1031 or the former 071.125 (C).	Sustainability Related
BIOL 3280 Forest Botany	Science	Biological Sciences	UG	(Formerly BOTN 3270, 001.327) An examination of the structure and dynamics of plant communities in forested ecosystems. Topics include forest type classification, physiological and anatomical responses of representative forest species, decomposition and nutrient cycling, disturbance and forest succession. Not to be held with the former 001.402. Prerequisites: BIOE 2412 (BOTN 2010, 001.201) (C); and one of BIOE 2300 (BOTN 2370, 001.237, ZOO 2370, 022.237), BIOL 2300 (BOTN 2371, ZOO 2371) or AGEC 2370 (065.237) (C); or consent of the department.	Sustainability Related
BIOL 3300 Evolutionary Biology	Science	Biological Sciences	UG	(Lab Required) (Formerly BOTN 3000, ZOO 3000) Evolution is the ultimate cause of biological diversity. This course introduces the major questions and research methods in evolutionary biology. Topics include evolutionary genetics, adaptation, speciation, and the reconstruction of evolutionary history. Not to be held with the former 022.400. Prerequisites: a "C" or better in one of BIOL 2500 (BOTN 2460, 001.246), BIOL 2501 (BOTN 2461), or PLNT 2520 (039.252); and any one of the following with a minimum grade of "C": BIOE 2200 (ZOO 2600, 022.260), BIOL 2210 (ZOO 2320, 022.232), BIOL 2231 (ZOO 2501, 022.250F), BIOL 2240 (BOTN 2110, 001.211), BIOL 2260 (BOTN 2110, 001.211), BIOL 2261, BIOL 3260 (BOTN 2290, 001.229) or consent of department.	Sustainability Related
BIOL 3310 Foundations of Population Ecology	Science	Biological Sciences	UG	(Lab Required) (Formerly ZOO 3680) The study of living populations, through experimentation and theory, will be examined. Topics investigated will include population regulation, competition, predation, disease, harvest, nonlinear and spatial dynamics and individual based models. Concepts and methods are reinforced through tutorials and evaluated by assignments and examinations. Not to be held with the former 022.348. Prerequisites: a "C" or better in one of BIOL 2300 (BOTN 2370, ZOO 2370, 001.237, 022.237), BIOL 2301 (BOTN 2371, ZOO 2371) or AGEC 2370 (065.237); and STAT 2000 or STAT 2001 (005.200) (C); or consent of department.	Sustainability Related
BIOL 3314 Field Ecology	Science	Biological Sciences	UG	(Formerly BOTN 3420, 001.342, ZOO 3450, 022.345) Problems, techniques and assumptions involved in measuring parameters of biological populations and environmental variables. A field trip will be held prior to the start of classes. Students must register in the department office by August 5. Prerequisites: a "C" or better in one of BIOL 2300 (BOTN 2370, ZOO 2370, 001.237, 022.237), BIOL 2301 (BOTN 2371, ZOO 2371) or AGEC 2370 (065.237); and STAT 2000 or STAT 2001 (005.200) (D).	Sustainability Related

BIOL 3318 Boreal Ecology	Science	Biological Sciences	UG	(Formerly ZOO 3380, 022.338) A survey of ecological factors in the formation, evolution, and survival of northern biota including northern peoples. There will be optional weekend field trips. Prerequisite: a "C" or better in one of BIOL 2300 (BOTN 2370, ZOO 2370, 001.237, 022.237), BIOL 2301 (BOTN 2371, ZOO 2371) or AGEC 2370 (065.237); or BIOL 2390 (ZOO 2290, 022.229, BOTN 2280, ZOO 2280, 001.228, 022.228); or consent of department.	Sustainability Related
BIOL 3372 Wetland Ecology	Science	Biological Sciences	UG	Lectures and field exercises examine the biotic (algae, macrophytes, invertebrates, and vertebrates) and abiotic (hydrology, nutrient cycling) properties of Manitoba's wetlands. Various wetland types, including prairie potholes, peatlands, and coastal marshes will be considered in lectures and field work. The course is offered in Summer Session. May not be held with the former BOTN 3580, 001.358, ZOO 3580, 022.358. Prerequisite: a C or better in one of BIOL 2300 (BOTN 2370, ZOO 2370, 001.237, 022.237), BIOL 2301 (BOTN 2371, ZOO 2371) or AGEC 2370 (065.237); or consent of department.	Sustainability Related
BIOL 3452 Environmental Plant Physiology	Science	Biological Sciences	UG	(Lab Required) An integrated study of the major physiological processes in higher plants, and how these processes influence growth and development of plants in natural ecosystems. Stress responses of plants to water, temperature, light and nutrients will be emphasized. Not to be held with the former BOTN 3010. Prerequisite: one of BIOL 3400, the former BIOL 3400, PLNT 3400, or the former PLNT 3500 (C); and one of CHEM 1310 or CHEM 1311 (C).	Sustainability Related
BIOL 3470 Environmental Physiology of Animals 1	Science	Biological Sciences	UG	(Lab Required) This course is intended to acquaint students with some of the major environmental challenges encountered by animals and stresses the diversity of physiological solutions to these problems in aquatic and terrestrial organisms. Areas covered may include thermal biology, circulation, gas exchange and buoyancy regulation. Laboratories explore related subjects in various animals. This course may not be held for credit with the former BIOL 3462, ZOO 3540 (022.354). Prerequisite: BIOL 2200 (C) or BIOL 2210 (C); or consent of department.	Sustainability Related
BIOL 3472 Environmental Physiology of Animals 2	Science	Biological Sciences	UG	(Lab Required) This course is intended to acquaint students with the control and integration of organ systems and body functions of animals, and their biochemical and physiological adaptations to environmental perturbations. Areas covered may include neuroendocrinology, excretion, and water, salt, and acid-base balance. Laboratories explore related subjects in various animals. This course may not be held for credit with BIOL 3460, or the former ZOO 3530, or the former 022.353. Prerequisites: BIOL 2200 (C) or BIOL 2210 (C) or consent of department.	Sustainability Related
BIOL 3500 Genetics 2	Science	Biological Sciences	UG	(Lab Required) (Formerly BOTN 3460, 001.346) The course complements Genetics I (BIOL 2500, BOTN 2460, 001.246, BIOL 2501, BOTN 2461) and deals with various aspects of linkage and crossing over, gene function, allelism, mutation and repair, the use of bacteria and viruses as genetic tools, basics of developmental genetics and extranuclear inheritance. Not to be held with BIOL 3501. Prerequisite: BIOL 2500 (BOTN 2460, 001.246) (C), or BIOL 2501 (BOTN 2461) or PLNT 2520 (039.252 or 039.209) (C). Prerequisite or concurrent requirement: One of CHEM 2370, CHEM 2371 (002.237), MBIO 2370, MBIO 2371 (060.237), CHEM 2780 (002.278), or MBIO 2780 (060.278); or consent of department.	Sustainability Related
BIOL 3600 Biological Diversity and Sustainability	Science	Biological Sciences	UG	Anthropogenic drivers of change of many components of biological diversity; the resulting impacts on ecosystem capacity to provide ongoing goods and services that are essential constituents of wellbeing and ultimately sustainability. Prerequisites: BIOL 2300 (C); or BIOL 1030 (C) and BIOL 2390 (C).	Sustainability Focused
BIOL 4210 Biology of Fishes	Science	Biological Sciences	UG	(Lab Required) (Formerly ZOO 4170, 022.417) Lectures survey organ systems, life history, and the population biology of fishes. The ecological analysis of fish communities is addressed through a field trip and a series of workshops on the analysis of field data. Evaluation is based upon work related to the field trip and examinations based upon lecture material. Not to be held with the former 022.467. Prerequisite: BIOL 2210 (ZOO 2320, 022.232) (C) or BIOL 2231 (ZOO 2501, 022.250) (C).	Sustainability Related
BIOL 4212 Systematics and Biogeography of Fishes	Science	Biological Sciences	UG	(Lab Required) (Formerly ZOO 4220, 022.422) A study of the evolutionary history, interrelationships and distribution patterns of the fishlike vertebrates. Laboratories will cover the identification of the major groups of fishlike vertebrates. Not to be held with the former 022.418 or 022.467. Prerequisite: BIOL 2210 (ZOO 2320, 022.232) (C) or BIOL 2231 (ZOO 2501, 022.250) (C); or consent of department.	Sustainability Related
BIOL 4214 Biology of Amphibians and Reptiles	Science	Biological Sciences	UG	(Lab Required) (Formerly ZOO 4230, 022.423) Lectures consider the evolution, biology and adaptations of amphibians and reptiles. Laboratories and student presentations will deal with classification, structure, identification, and methods of field and laboratory study of these animals. Not to be held with the former 022.476. Prerequisite: BIOL 2210 (ZOO 2320, 022.232) (C) or BIOL 2231 (ZOO 2501, 022.250) (C); or consent of department.	Sustainability Related
BIOL 4216 Biology of Birds	Science	Biological Sciences	UG	(Lab Required) (Formerly ZOO 4240, 022.424) Biology of birds including: morphology, systematics, evolution, life histories and breeding biology, ecology, migration, and distribution of birds. Not to be held with the former 022.468. Prerequisite: BIOL 2210 (ZOO 2320, 022.232) (C) or BIOL 2231 (ZOO 2501, 022.250) (C). Prerequisite or concurrent requirement: BIOL 3360 (ZOO 3100).	Sustainability Related
BIOL 4218 Biology of Mammals	Science	Biological Sciences	UG	(Lab Required) (Formerly ZOO 4250, 022.425) Structure, classification, evolution, life histories and distribution of mammals and their relation to human cultures. Techniques of studying mammals. Identification of the mammals of Manitoba. Offered in 2009/2010 and alternate years thereafter. Prerequisites: BIOL 2210 (ZOO 2320, 022.232) (C) or BIOL 2231 (ZOO 2501, 022.250) (C); and one of BIOL 2300 (BOTN 2370, ZOO 2370, 001.237, 022.237), BIOL 2301 (BOTN 2371, ZOO 2371) or AGEC 2370 (065.237) (C); or consent of department.	Sustainability Related
BIOL 4220 Marine Biodiversity	Science	Biological Sciences	UG	(Lab Required) (Formerly ZOO 4260) Examines key ecological principles governing the maintenance of marine biodiversity, particularly in northern ecosystems. Topics include the definitions and global patterns of biodiversity and the ecological mechanisms influencing changes in these patterns in the context of applied population, community and ecosystem ecology. The course will also emphasize practical solutions, including fisheries' harvest models and marine protected areas. Prerequisites: a "C" or better in one of BIOL 2300 (BOTN 2370, ZOO 2370, 022.237, 001.237), BIOL 2301 (BOTN 2371, ZOO 2371) or AGEC 2370 (065.237), or BIOL 2390 (BOTN 2280, ZOO 2290, 001.228, 022.229); or consent of department.	Sustainability Related
BIOL 4250 Principles of Plant Pathology	Science	Biological Sciences	UG	(Lab Required) (Formerly BOTN 4210) A study of the interactions of causal agents, environment, and host plants in the development of disease. Special attention will be given to diseases of local and regional significance. Laboratory exercises will illustrate the basic techniques of plant pathology. Prerequisites: one of BIOL 3400 (formerly BIOL 3450) or PLNT 3400 (C); and one of BIOL 2260 (BOTN 2210) (C) or BIOL 2261; or consent of department.	Sustainability Related
BIOL 4260 Experimental Parasitology	Science	Biological Sciences	UG	(Lab Required) (Formerly ZOO 4730, 022.473) Principles of parasitology including immunology, ecology, biochemistry, and physiology. Students must carry out an experimental study. Prerequisite: BIOL 3270 (ZOO 3460, 022.346) (C).	Sustainability Related
BIOL 4262 Wildlife and Fisheries Parasitology	Science	Biological Sciences	UG	(Lab Required) (Formerly ZOO 4720, 022.472) Parasites of major vertebrate groups of economic importance in temperate regions. Emphasis on: identification, means of control, and how to evaluate the impact of parasites on animal populations. A major project is required. Prerequisite: BIOL 3270 (ZOO 3460, 022.346) (C).	Sustainability Related
BIOL 4300 Evolution and Adaptation	Science	Biological Sciences	UG	Lectures and discussion on advances in evolutionary research. Topics will include systematics, evolutionary genetics, evolution and development, coevolution, mating systems, species ranges, ecoevolutionary dynamics, and evolution in society. This course may not be held for credit with either of BIOL 4240 or BIOL 4242. Prerequisite: BIOL 3300.	Sustainability Related
BIOL 4310 Applications of Population Ecology in Fisheries and Wildlife	Science	Biological Sciences	UG	(Lab Required) (Formerly ZOO 4850) The material introduced in BIOL 3310 (ZOO 3680, 022.348) is developed into the quantitative analyses of field data to form a basis for conservation and management. Topics covered include: surplus harvest models, virtual population analysis, spatial population modeling, bioeconomics, and quantitative adaptive management. Concepts are reinforced through tutorials. Prerequisite: BIOL 3310 (ZOO 3680, 022.348).	Sustainability Related
BIOL 4312 Analysis of Biological Communities	Science	Biological Sciences	UG	(Formerly BOTN 4650, 001.465) A survey of methods and approaches to the analysis of biological and environmental data containing many variables. Offered in alternate years. Not to be held with BIOL 7440 (BOTN 7440). Prerequisites: a "C" or better in one of BIOL 2300 (BOTN 2370, ZOO 2370, 001.237, 022.237), BIOL 2301 (BOTN 2371, ZOO 2371) or AGEC 2370 (065.237); and STAT 2000 or STAT 2001 (005.200) (C). (Formerly BOTN 4150, 001.415) This course examines the ecology of interactions between plants and their biotic environment: other plants, animals and soil microbes. This is a reading course. Students will participate in discussions of key papers, examine recent and historic literature, and write a term paper examining a selected topic. Prerequisite: a "C" or better in BIOL 2300; or consent of department.	Sustainability Related
BIOL 4330 Plant Interactions	Science	Biological Sciences	UG	(Lab Required) (Formerly ZOO 4820, 022.482) Biology and methods of commercial culture of fish and other aquatic animals. Emphasis on: physiological, nutritional, genetic, pathological and economic aspects and on current and new technologies. Prerequisite: STAT 2000 or STAT 2001 (005.200) (D); and consent of instructor.	Sustainability Related
BIOL 4340 Aquaculture	Science	Biological Sciences	UG	(Lab Required) (Formerly ZOO 4280, 022.428) Examines proximate and ultimate questions relating to mating and parental behaviour, communication, social parasitism and animal intellect to provide insight into the intimate relationship between behavioural evolution and the environment. Laboratory and field exercises complement major topics considered in lectures. Not to be held with the former 022.448. Prerequisite: BIOL 3360 (ZOO 3100, 022.310), or the former 022.343 (C); or consent of department.	Sustainability Related
BIOL 4362 Behavioural Ecology and Cognitive Ethology	Science	Biological Sciences	UG	(Formerly BIOL 4010, 001.401) This course examines the relationship between algae, fungi and macrophytes, and the physical, chemical and biological properties of the aquatic environment. Specific adaptations to life in water, and patterns of distribution and succession in rivers, lakes and wetlands will be covered. Prerequisite: a "C" or better in one of BIOL 2300 (BOTN 2370, ZOO 2370, 001.237, 022.237), BIOL 2301 (BOTN 2371, ZOO 2371) or AGEC 2370 (065.237); or consent of department.	Sustainability Related
BIOL 4374 Aquatic Botany	Science	Biological Sciences	UG	(Lab Required) (Formerly ZOO 4840, 022.484) A survey of the principles governing the dynamics of chemicals in the environment, with emphasis on the biological systems, using case histories of known pollution problems. Prerequisites: a "C" or better in one of CHEM 2370, CHEM 2371 (002.237), MBIO 2370, MBIO 2371 (060.237), CHEM 2780 (002.278), or MBIO 2780 (060.278); plus a "C" or better in one of BIOL 2300 (BOTN 2370, ZOO 2370, 001.237, 022.237), BIOL 2301 (BOTN 2371, ZOO 2371) or AGEC 2370 (065.237); plus a "C" or better in one of BIOL 2410 (ZOO 2530, 022.253), BIOL 2411 (ZOO 2531) or BIOL 3460 (ZOO 3530, 022.353); and BIOL 3462 (ZOO 3540, 022.354, or 22.352) (C); or consent of department.	Sustainability Related
BIOL 4380 Environmental Toxicology	Science	Biological Sciences	UG	(Lab Required) (Formerly ZOO 4710, 022.471) Introduction to the biological and socioeconomic goals of wildlife management and to the basic techniques of wildlife management on these goals. There will be four or five field trips. Some weekend field trips may be required. Prerequisite: BIOL 3310 (ZOO 3680, 022.348) (C); or consent of department.	Sustainability Related
BIOL 4390 Principles of Wildlife Management	Science	Biological Sciences	UG	A physiological and ecological study of disturbed plant communities with emphasis on stresses associated with both mining activities and agricultural practices and processes of assisted recovery. Prerequisites: BIOL 3400 or PLNT 3400 (or the former BOTN 2020, BIOL 3450 or PLNT 3500) (C); and one of BIOL 2300, BIOL 2301 or AGEC 2370 (or the former BOTN 2370 or BOTN 2371 or ZOO 2370 or ZOO 2371) (C); or consent of instructor.	Sustainability Related
BIOL 4400 Revegetation of Disturbed Lands	Science	Biological Sciences	UG	(Formerly ZOO 4830, 022.483) Energetic strategies of animals living in ecologically diverse environments. Integration of physiological, morphological and behavioural adaptations with an emphasis on vertebrate species. Prerequisites: BIOL 2210 (ZOO 2320, 022.232) (C) or BIOL 2231 (ZOO 2501, 022.250) (C); and one of BIOL 2410 (ZOO 2530, 022.253) (C), BIOL 2411 (ZOO 2531), BIOL 3470 (BIOL 3462, ZOO 3530, 022.353) (C), or BIOL 3472 (BIOL 3460, ZOO 3540, 022.354) (C); or consent of department.	Sustainability Related
BIOL 4460 Comparative Animal Energetics	Science	Biological Sciences	UG	(Formerly BOTN 4180, 001.418) Analysis of plant development at the molecular level. Recent advances in model system genetics will be highlighted including seedling, root, shoot, and flower development as well as environmental responses. Prerequisite: BIOL 2500 (BOTN 2460, 001.246) or BIOL 2501 (BOTN 2461) (C).	Sustainability Related
BIOL 4500 Molecular Genetics of Plant Development	Science	Biological Sciences	UG	(Formerly ZOO 7140, 022.714) An in-depth study of topics related to how changing internal and external environments influence life sustaining physiological processes. Topics include plant and animal stress, endocrine & electrophysiology, metabolism and molecular biology of solute transport.	Sustainability Focused
BIOL 7140 Advanced Physiology	Science	Biological Science	G	An in-depth study of topics selected from physiological research of the department including plant, animal, stress physiology, ecophysiology, electrophysiology, endocrine or neurophysiology and others. Topics will be focused on the research area of each student to acquire specialized knowledge in a particular topic.	Sustainability Related
BIOL 7240 Wetland Ecology	Science	Biological Science	G	(Formerly BOTN 7240, 001.724) A study of marsh, bog, and fen communities, with emphasis on their history, soil plant relationships, and species distribution. Field work at the former Field Station (Delta Marsh) and nearby bog and fen sites will be an integral part of the course.	Sustainability Related
BIOL 7302 Environmental Biology and Ecology	Science	Biological Science	G	An in-depth study of topics selected from environment and ecology interests of the department, including population ecology, fisheries biology, plant/animal interactions, animal behaviour, ecosystem dynamics and restoration. Topics will be chosen to acquire specialized knowledge in a particular topic.	Sustainability Related
BIOL 7352 Aquatic Biology	Science	Biological Science	G	An in-depth study of topics covering all aspects of aquatic biological interests in the department including wetland ecology, limnology, oceanography, toxicology, conservation, and others. Topics will focus on the research interests of students so they may acquire specialized knowledge in particular areas.	Sustainability Related
BIOL 7590 Pathology of Trees and Shrubs	Science	Biological Science	G	(Formerly BOTN 7390, 001.739) Lectures, seminars and readings focusing on special problems relating to the pathology of woody plants. Emphasis on ornamental shrub, shade tree, and forest tree species of local importance. Prerequisite: BIOL 4250 or the former BOTN 4210 or 001.421 or equivalent, or consent of department head.	Sustainability Related
BME 7030 Biomedical Ethics	Engineering	Electrical and Computer Engineering	G	The goal of this course is to introduce the ethical issues encountered in biomedical research. The course presents several actual examples and affords fundamental ethical roles of any biomedical research.	Sustainability Related
CATH 3900 Catholic Social Teaching	Arts	Catholic Studies	UG	An introduction to Catholic social teaching with a dual focus on critical theory and praxis. Students will engage the Church's position on issues such as human dignity, solidarity with minority and oppressed populations, the common good, subsidiarity, rights and responsibilities, as well as the preferential option for the poor. Prerequisite: [a grade of "C" or better in each of CATH 1190 (160.119) and an additional 3 credit hours of CATH courses] or written consent of instructor.	Sustainability Related

CFSW 0116 Community and Organizational Theory	Extended Education	Aboriginal Focus Program	UG	An introduction to Catholic social teaching with a dual focus on critical theory and praxis. Students will engage the Church's position on issues such as human dignity, solidarity with minority and oppressed populations, the common good, subsidiarity, rights and responsibilities, as well as the preferential option for the poor. Prerequisite: [a grade of "C" or better in each of CATH 1190 (160.119) and an additional 3 credit hours of CATH courses] or written consent of instructor.	Sustainability Related
CFSW 0118 Differential Resources	Extended Education	Aboriginal Focus Program	UG	This course deals with concepts such as conflict and power which relate social work practice to the nature of secondary human relationships. These are applied to the dynamics within and between communities and organizations.	Sustainability Related
CFSW 0120 Early Intervention	Extended Education	Aboriginal Focus Program	UG	The course will introduce students to Differential Response in the Child welfare system. A review will be completed of the history of child welfare and the process of the decisions to adapt a new approach to child welfare. The student will learn how to apply the new assessment tools and learn how to stream cases into the appropriate stream of service to ensure an appropriate response to families. The purpose of differential response is keep families out of the protection track by offering strength based responses to families.	Sustainability Related
CFSW 0122 Effects of Abuse, Neglect & Trauma	Extended Education	Aboriginal Focus Program	UG	This course is designed to provide students with an understanding of Child and Family Services in the province of Manitoba and the impact upon communities. Students will learn about the various early intervention strategies with families when addressing key issues such as the intergenerational effects of residential schools, addictions, domestic violence, and prevention. The course will provide students with an opportunity to identify and assess the outcomes of early intervention theories. Students will examine the various levels of early intervention praxis in First Nations and mainstream theories and identify a variety of family support services available to children and families.	Sustainability Related
CFSW 0124 Family Violence	Extended Education	Aboriginal Focus Program	UG	This course deals with the effects of abuse, neglect, and trauma within the context of the Aboriginal community.	Sustainability Related
CFSW 0126 Mental Health Challenges	Extended Education	Aboriginal Focus Program	UG	This course is designed to provide understanding of theory and practice in family violence and opportunity to discuss the myths and realities about family violence. Students learn what resources are available, could be available, and what can be done at a community level to deal with family violence.	Sustainability Related
CFSW 0128 Suicide Prevention	Extended Education	Aboriginal Focus Program	UG	This course will focus on understanding and recognizing what mental health, mental illness and mental health problems are. Students will learn signs and symptoms of common mental health problems as well as handling crisis situations. Multiple addition and mental health scenarios will be presented and discussed. Students will be taught effective intervention methods and treatment. Students will learn ways to access professional help as well as learning what resources are available to them. The historical processes of colonization including the 80's scoop and residential schools which contributed to Aboriginal social problems will be examined. Unresolved post traumatic intergenerational trauma and unresolved Grief will be presented and examined because mental health issues are sometimes mistaken symptoms of unresolved events and grief.	Sustainability Related
CHEM 1000 Understanding the World through Chemistry	Science	Chemistry	UG	This course is based on a combination of learning objectives and competencies from the ASIST, safeTALK, Straight Talk and Tattered Teddies training workshops offered throughout Manitoba. The course emphasizes suicide first aid and the steps required to help an at risk person stay safe and seek further help. It helps to train attendees on how to recognize invitations for help, how to reach out and offer support, how to review the risk of suicide, how to apply a suicide intervention model, and provides them with a link to community resources. The Tattered Teddies component will focus on working with at risk children under the age of 12 and the Straight Talk contains youth suicide intervention strategies and resources.	Sustainability Related
CHEM 1030 Carbon Chemistry in Nature and Society	Science	Chemistry	UG	(Formerly 002.100) This course introduces students to the principles of chemistry necessary for an understanding of contemporary issues in agriculture, the environment, industry, medicine, and the economy. High school chemistry is not required. May be used as a prerequisite (minimum grade "B") for CHEM 1300 or CHEM 1301 (Developmental section). Not to be held with CHEM 1001 or the former 002.125. May not be used to fulfill chemistry requirements in a Chemistry Honours, Major, General or Minor program. Not available to students who have previously obtained credit in, or are concurrently registered in, any 2000 level university Chemistry course.	Sustainability Related
CHEM 2550 Environmental Chemistry	Science	Chemistry	UG	(Formerly 002.103) This course introduces organic molecules and illustrates the principles of organic chemistry with topics from cosmetics and personal care products, the petroleum industry, food preparation chemistry, polymers and plastics, poisons and biological toxins, and risk assessment. May not be used to fulfill chemistry requirements in a Chemistry Honours, Major, General or Minor program. Not available to students who have previously obtained credit in, or are concurrently registered in, any 2000 level university Chemistry course. Not to be held with CHEM 1031 or the former 002.125. Prerequisite: One of CHEM 1000, CHEM 1001 (002.100) (C), CHEM 1300, CHEM 1301 (002.130) (C), Chemistry 005 (or equivalent), or CHEM 0900 (002.090).	Sustainability Related
CHEM 2560 Water Quality Analysis for Engineers	Science	Chemistry	UG	(Lab Required) (Formerly 002.255) An introduction to the chemistry of the environment. Emphasis will be on the composition of the natural environment and the processes of natural and human introduced chemical species that take place within it. The course will provide students with the chemical basis for understanding the environment and environmental problems. This course is also taught in Environmental Science as ENVR 2550. Prerequisite: CHEM 1310 or CHEM 1311 (002.131) (C).	Sustainability Related
CHEM 4550 Aquatic Chemistry	Science	Chemistry	UG	(Lab Required) Principles and applications of chemical and instrumental methods for the analysis of water quality. This course is restricted to students in Civil Engineering.	Sustainability Related
CHEM 4670 Drug Design and Drug Discovery	Science	Chemistry	UG	(Formerly 002.455) An examination of biogeochemical processes affecting the distribution, speciation and bioavailability of chemical substances in the aquatic environment. The theoretical basis for the chemical behaviour of natural water systems is discussed, as well as the description of processes involved in wastewater treatment. This course is also taught in Environmental Science as ENVR 4550 (128.455). Prerequisite: A grade of "C" or better in one of CHEM 3550, the former 002.347, the former 002.355, or ENVR 3550 (128.355); or permission of the department.	Sustainability Related
CHEM 4802 Topics in Analytical Chemistry	Science	Chemistry	UG	An understanding of the design, synthesis and interactions of drug molecules. Emphasis will be on novel druglike molecules in the early stages of drug discovery with special focus on brain diseases and infectious diseases. Prerequisites: CHEM 2220 (C); and one of CHEM 2360, CHEM 2361, MBIO 2360, MBIO 2361, 002.236, 060.236 (C) or CHEM 2860 (C).	Sustainability Related
CHEM 7700 Topics in Analytical Chemistry	Science	Chemistry	G	(Formerly 002.770) Topics of current research interest in analytical chemistry including, but not limited to, mass spectrometry of large molecules, separation techniques, analysis of metals, surface analytical techniques, analysis of environmental samples, analysis of 'real' samples, and sampling techniques. Prerequisites: CHEM 4590 (or 002.347) or permission of instructor.	Sustainability Related
CHRD 0102 Heads & Chairs: Challenges in Academic Leadership	Extended Education	CHRD	UG	Selected topics on the most recent and sensitive techniques described in the literature in the Analytical, Bioanalytical and Environmental areas. A selection of topics among separation, surface, ionization, spectroscopy, voltammetry and spectrometry techniques will be covered. This is an advanced 4000 level course, registration only by Department permission. This course may not be offered every year check with department for availability.	Sustainability Related
CHRD 0118 Diversity in Advising	Extended Education	CHRD	UG	Academic advisors work with a range of students e.g. students with mental health issues, multicultural students, students at risk, first generation students, LGBTQA students, student athletes. This course outlines issues faced by advisors who work with students from these populations, as well as advising procedures that are helpful in working with these students.	Sustainability Related
CHSC 7130 Methods in Health Services Research and Evaluation	Medicine	Community Health Sciences	G	Examines the process of planning and conducting research and evaluation to assess health services with an emphasis on the methods by which a question may be translated into a testable hypothesis, and the specification of a research plan that will produce results of maximum internal and external validity. Prerequisites: CHSC 7520, CHSC 7820 or instructor permission.	Sustainability Related
CHSC 7200 Current Concepts in Global Health: Populations, Policies and Programs	Medicine	Community Health Sciences	G	The course will focus on global patterns of mortality and morbidity, and the organization of health care services. Social, cultural, and economic issues will be related to health and health services. Prerequisite: instructor permission.	Sustainability Related
CHSC 7210 Epidemiology of Women's Health	Medicine	Community Health Sciences	G	This course will deal with problems and concerns particular to women's health. The topics will be approached from an epidemiological perspective but use will be made of materials from health economics, evaluation research, medical sociology and anthropology. Prerequisite: instructor permission.	Sustainability Related
CHSC 7220 Health and Health Services of First Nations, Métis and Inuit Peoples	Medicine	Community Health Sciences	G	Seminar based course critically examines First Nations, Métis and Inuit health status, health care services, historical assumptions about indigenous populations, and 'preCanada' world events influencing European colonization of this land with resultant marginalization of original indigenous Peoples. Prerequisites: CHSC 7320, CHSC 7330, or instructor permission.	Sustainability Related
CHSC 7270 Epidemiology of Chronic (NonCancer) Diseases	Medicine	Community Health Sciences	G	The objective is to study the natural history of chronic diseases including the distribution of diseases, risk and prognostic factors, rationale and strategies for prevention. The methodological issues concerning the investigation of severe disease are also discussed. Prerequisites: CHSC 7520, CHSC 7820, or instructor permission.	Sustainability Related
CHSC 7290 Economic Evaluation of Health Care	Medicine	Community Health Sciences	G	The objectives of this course are to enable students to understand economic evaluation methodologies (cost-effectiveness, cost benefit, cost-utility analysis) as applied to health care and to familiarize them with the applied literature on economic evaluation of health care. Prerequisite: Students outside CHS require instructor permission.	Sustainability Related
CHSC 7320 Organization and Financing of the Canadian Health Care System	Medicine	Community Health Sciences	G	Students will study the historical development and current structure of the Canadian health care system and relate its development to changes in social and political factors. The course provides an economic perspective on current policy issues in the organization, financing, and delivery of health care in Canada. Prerequisite: Students outside CHS require instructor permission.	Sustainability Related
CHSC 7330 Cultural Perspectives on Illness and Medical Practice	Medicine	Community Health Sciences	G	The objective of this course is to make students aware of the ways in which disease, illness, and medical practice are socially and culturally mediated. The course will examine cultural influences on the experience and expression of illness and consider the medical practitioner's role in the development and provision of culturally responsive health care. Prerequisite: Students outside CHS require instructor permission.	Sustainability Related
CHSC 7380 Prevention and Health	Medicine	Community Health Sciences	G	The course will cover frameworks used in formulating preventive strategies. Topics will include risk factor assessment, screening, health education, legislation, litigation, lifestyle and prevention. Actual case studies will be used. Prerequisites: CHSC 7520. Students outside CHS require instructor permission.	Sustainability Related
CHSC 7450 Epidemiology of Communicable Diseases	Medicine	Community Health Sciences	G	Overview of epidemiological principals in communicable disease investigation and prevention and specific issues in controls of certain specific communicable diseases of public health importance in Canada will be introduced. Prerequisites: CHSC 7520, CHSC 7820. Students outside CHS require instructor permission.	Sustainability Related
CHSC 7460 Environmental and Occupational Health	Medicine	Community Health Sciences	G	The aim of the course is to acquaint the student with the role of the environment (general and specifically working) as the determinant of health. The content of the course will be presented in the form of lectures, seminars, and field visits. Prerequisites: CHSC 7520. Students outside CHS require instructor permission.	Sustainability Related
CHSC 7490 Empirical Perspectives on Social Organization and Health	Medicine	Community Health Sciences	G	This course will focus on a selected review of the epidemiological literature which has integrated social factors in the investigation of the distribution of health and illness in society. The course will review a selection of important empirical studies in investigating the roles played by social, psychological and economic status factors in determining health and illness. Emphasis will be placed on identifying the central theoretical and methodological approaches to defining and measuring socioeconomic status in this literature. Prerequisites: CHSC 7520, CHSC 7820. Students outside CHS require instructor permission.	Sustainability Related
CHSC 7500 Conc. Public Health	Medicine	Community Health Sciences	G	Public Health is a multidisciplinary field of inquiry and practice that addresses the social and biological dimensions of population health. The course provides students with an introduction to this field and examines historical and current theoretical debates relating to the science and art of protecting, promoting and restoring the health of the population through organized social activity. Prerequisite: Instructor permission is required for students not admitted to the CHS Master of Public Health program.	Sustainability Related
CHSC 7510 Current Topics in Community Health	Medicine	Community Health Sciences	G	Focus on current issues and topics in community health, particularly as they relate to Manitoba and to Canada. Emphasis will be placed on current literature and ongoing research to examine emerging policies and programs within health care and social development. Prerequisites: CHSC 7520, CHSC 7810 or CHSC 7820, CHSC 7320. Students outside CHS require instructor permission.	Sustainability Related
CHSC 7520 Principles of Epidemiology I	Medicine	Community Health Sciences	G	This course will introduce the basic concepts and methods of epidemiology, including the definition and measurement of health status and health determinants in populations, assessing health risks and inferring causation, and issues in the design and analysis of population health studies. Prerequisite: Students outside CHS require instructor permission.	Sustainability Related
CHSC 7530 Principles in Epidemiology II	Medicine	Community Health Sciences	G	This course follows the Principles of Epidemiology I and discusses the applications of epidemiologic principles in public health practice, including the investigations of epidemics, disease surveillance, clinical applications, evaluation of health programs, and the planning of preventive programs. Students will also receive instruction in microcomputer applications and use of EPINFO software for data entry, analysis and presentation. Prerequisites: CHSC 7520, CHSC 7810 or CHSC 7820. Students outside CHS require instructor permission.	Sustainability Related
CHSC 7560 Epidemiology of Cancer	Medicine	Community Health Sciences	G	This course introduces the magnitudes, risk factors and prevention strategies of cancer. It focuses on current knowledge related to the etiology of cancer, medical interventions and potential for prevention. Prerequisites: CHSC 7520. Students outside CHS require instructor permission.	Sustainability Related
CHSC 7710 Social Aspects of Aging	Medicine	Community Health Sciences	G	This course is an advanced seminar designed to examine current social issues in aging. The course is organized around selected topics related to aging. Where possible, the Canadian experience will be compared to international trends and diversity will be highlighted. The first section is a review of the field of gerontology, ageism, demographic trends, theoretical perspectives and methods and the second section explores contemporary social issues. This course is a required course for the Graduate Specialization in Aging Certificate. Prerequisite: Students outside CHS require instructor permission.	Sustainability Related
CHSC 7720 Health and Aging	Medicine	Community Health Sciences	G	This course is an advanced seminar designed to examine health and health care issues in aging. Where possible, the Canadian (or Manitoban) experience will be highlighted. Key topics in the health domain will be covered, such as frailty, mental health and dementia. The provision of care for older adults will also be covered, focusing on both the formal care system, as well as informal care providers. This course is a requirement for the Graduate Specialization in Aging. Prerequisite: Students outside CHS require instructor permission.	Sustainability Related
CITY 7030 Planning Theory 1	Architecture	City Planning	G	(Formerly 073.703) The principal ideas and ideals influencing planning thought and practice, ranging from rational comprehensive planning to theories of societal guidance, ethics and the human environment interface.	Sustainability Related

CITY 7070 Housing and Urban Revitalization	Architecture	City Planning	G	(Formerly 073.707) Housing and urban revitalization in the Canadian context. Housing demand and supply, structure of the housing market, Canadian housing policy, affordability and other selected housing issues; processes and strategies related to urban decline and revitalization.	Sustainability Related
CITY 7300 Urban Society	Architecture	City Planning	G	(Formerly 073.730) An interdisciplinary seminar on social policy and social planning in the contemporary urban setting. National, provincial and local contexts shaping the provision of welfare and wellbeing. Demonstration of selected social planning techniques. Application to current issues.	Sustainability Related
CITY 7410 Planning Design 1	Architecture	City Planning	G	(Formerly 073.741) Studio/workshop developing problem solving techniques and design skills in an area subject to environmental, social and economic change. Preparation of a planning report comprising of research and analysis, evaluation of feasible alternative strategies and designs, synthesis and recommendations for implementation. Case studies from planning journals and planning practice in cities and regions.	Sustainability Related
CITY 7430 Planning Design 3 (Urban Design)	Architecture	City Planning	G	(Formerly 073.743) The application of urban design theories and techniques to a large scale urban area of complex land uses and community development issues. The studio is also open to advanced students in architecture, landscape architecture and interior design and develops a broad approach to multidisciplinary problem-solving design solutions.	Sustainability Related
CITY 7450 Concepts in Sustainable Planning and Design	Architecture	City Planning	G	(Formerly 073.745) Examination of the concepts and theories involved in the development of sustainability as a force in socioeconomic and environmental decision making. Explores the implications of sustainability for contemporary design and planning thought and practice.	Sustainability Focused
CITY 7460 Urban Ecology and Environmental Management	Architecture	City Planning	G	(Formerly 073.746) Theoretical frameworks and theories in urban ecology and environmental management as they apply to municipal institutional planning and the role of environmental planning in urban and regional government.	Sustainability Related
CIVL 3690 Environmental Engineering Analysis	Engineering	Civil Engineering	UG	(Formerly 023.369) Introduction to environmental engineering analysis concept; risk assessment; colloidal dispersions; mass balances, reaction kinetics and reactor design principles. Water pollution and water quality in rivers and lakes. Physical, chemical and biological unit operations and processes applied in water and/or wastewater treatment. Meteorology and air pollution; atmospheric dispersion. Solid waste management issues. Prerequisites: (CHEM 1310 or CHEM 2560), STAT 2220 (or 005.222).	Sustainability Related
CIVL 3700 Environmental Engineering Design	Engineering	Civil Engineering	UG	(Formerly 023.370) Design principles are developed for water, solid/soil and air pollution control. Application of the principles in design projects which may include surface and groundwater remediation, solid waste management, landfilling, soil remediation and site assessment; municipal and industrial wastewater treatment; odour and air pollution abatement facilities. Prerequisite: CIVL 3690 (or 023.369).	Sustainability Related
CIVL 3740 Hydraulics	Engineering	Civil Engineering	UG	(Formerly 023.374) Hydraulics of uniform and gradually varied flow; backwater computation and classification of surface water profiles; hydraulics jumps, spillways, and stilling basins; flow over weirs; hydraulic models; theory of turbomachinery. Prerequisite: CIVL 2790 (or 023.279).	Sustainability Related
CIVL 3750 Hydrology	Engineering	Civil Engineering	UG	(Formerly 023.375) Basic hydrological processes; precipitation; evapotranspiration; infiltration and runoff; analytical methods; hydrograph theory and application; application to reservoir design; project floods and flow forecasting; statistical analysis. Prerequisite or corequisite: STAT 2220 (or 005.222) or (STAT 1000 and STAT 2000).	Sustainability Related
CIVL 3790 Transportation Engineering 1	Engineering	Civil Engineering	UG	(Formerly 023.379) Introduction to transportation. Overview of Canada and U.S. transport systems. Fundamentals of transport systems analysis. Introduction to sequential demand modeling. Analysis and evaluation of uninterrupted flow on highways. Basics of geometric design of highways. Basics of design of interchanges. Introduction to transportation applications in transportation engineering. Basics of pavement engineering and design. Prerequisites: CIVL 2840, CIVL 2770 (or 023.277), CIVL 2780 (or 023.278) or (STAT 2220 (or 005.222) or (STAT 1000 and STAT 2000)). (Lab required) Best practices in sustainable design; current standards that govern building envelope components, cladding systems, membranes, interface details and indoor air quality. Industry challenges; presents fundamental principles of building science and demonstrates their application to the design, repair and maintenance of buildings; building systems; how environments affect material performance. May not be held with BIOE 4412 or BIOE 4700. Prerequisite: CIVL 3760, Pre or Corequisite: CIVL 3770.	Sustainability Related
CIVL 4024 Sustainable Building Design: Principles of Best Practice	Engineering	Civil Engineering	UG	(Formerly 023.410) Teams of students apply environmental management techniques, such as: impact assessment, site assessment, and auditing to selected engineering construction projects and operations; several oral and written reports are required. Co or prerequisite: CIVL 3700 (or 023.370).	Sustainability Focused
CIVL 4100 Engineering Management and the Environment	Engineering	Civil Engineering	UG	Design of unit processes used in potable water treatment plants: solid/liquid separation, oxidation, coagulation, filtration and adsorption and disinfection. Determination of design parameters through laboratory studies. Water treatment plants design standards and guidelines. Prerequisite: CIVL 3690.	Sustainability Related
CIVL 4120 Water Treatment Plant Design	Engineering	Civil Engineering	UG	Engineering principles and the practice of integrated management of solid wastes, including characteristics, sorting, utilization and final disposal in landfill. Principles of leachate and hazardous waste management and disposal. Pre or Corequisite: CIVL 3700.	Sustainability Related
CIVL 4130 Solid Waste Management	Engineering	Civil Engineering	UG	(Formerly 023.418) Development of a river water quality model; waste allocation modelling; modelling of the site selection process; analysis of environmental impact using technical and nontechnical (i.e. sociological, ethical, aesthetic) parameters. Prerequisites: CIVL 2780 (or 023.278), CIVL 3690 (or 023.369), CIVL 3750 (or 023.375).	Sustainability Related
CIVL 4180 Environmental Systems	Engineering	Civil Engineering	UG	(Formerly 023.420) Introduction to the principles of groundwater chemistry; chemical evolution of natural groundwater flow systems; sources of contamination; mass transport processes; hydrochemical behaviour of contaminants; nuclear waste disposal; nonaqueous phase organics; aquifer remediation. Prerequisites: CIVL 4250 (or 023.425), GEOL 2250 (or 007.225).	Sustainability Related
CIVL 4200 Groundwater Contamination	Engineering	Civil Engineering	UG	(Formerly 023.422) Site characterization; design and construction of surface footings, deep foundations, tunnels, earth and rock support systems; design and remediation of slopes; frozen soils and foundation design; geosynthetics and geofabrics in geotechnical construction; reinforced earth; geoenvironmental issues: bailing dams, cleanup, and remediation. Prerequisite: CIVL 3730 (or 023.373).	Sustainability Related
CIVL 4220 Geotechnical Design	Engineering	Civil Engineering	UG	(Formerly 023.423) Casehistory approach to geotechnical engineering practice from civil and mining engineering; relationship between predicted and observed behaviour; surface and shallow footings; propped walls and bulkheads; rock and soft ground tunnelling; deep foundations; rock and soil slopes; culverts; geoenvironmental problems. Prerequisite: CIVL 3730 (or 023.373).	Sustainability Related
CIVL 4232 Geotechnical Earthquake Engineering	Engineering	Civil Engineering	UG	(Lab required) Introduction to soil dynamics and geotechnical earthquake engineering. Behavior of soil subjected to various types of dynamic or cyclic loadings; liquefaction and lateral spreading of soil; design of shallow and deep foundations. retaining structures, slopes and pavements subject to seismic loading; design code provisions. Prerequisite: CIVL 3730.	Sustainability Related
CIVL 4250 Groundwater Hydrology	Engineering	Civil Engineering	UG	(Formerly 023.425) Introduction to theory of groundwater flow; flow nets; regional groundwater flow; well hydraulics; role of groundwater in geologic and engineering processes; multiphase flow. Prerequisites: GEOL 2250 (or 007.225), CIVL 2790 (or 023.279), MATH 2130 (or MATH 2110), MATH 2132 (or MATH 2100).	Sustainability Related
CIVL 4300 Design of Urban Water Systems	Engineering	Civil Engineering	UG	Water supply and the design of water distribution systems. Urban hydrology and design of wastewater and stormwater collection systems. Manitoba specific applications will be discussed. Prerequisites: CIVL 3750. Prior Corequisites: CIVL 3740.	Sustainability Related
CIVL 4350 Hazardous Waste Treatment	Engineering	Civil Engineering	UG	(Formerly 023.435) Sources and classification of hazardous and industrial wastes. Overview of the waste management problem. Theory and applications of various physical, chemical, and thermal, waste treatment processes. Waste elimination options and strategies. Prerequisite: CIVL 3690 (or 023.369).	Sustainability Related
CIVL 4380 Infrastructure Engineering and Construction Management	Engineering	Civil Engineering	UG	(Formerly 023.438) Infrastructure engineering; drainage systems, maintenance engineering and management. Construction and project management; workplace health and safety, construction site field trips, construction equipment, temporary facilities, project management. Elements of law for civil engineers. Prerequisite: CIVL 4050 (or 023.405).	Sustainability Related
CIVL 4400 Transportation Engineering 2	Engineering	Civil Engineering	UG	(Formerly 023.440) Fundamentals of traffic control for highways. Capacity and level of service analysis on urban streets. Urban supplement to geometric design guide for Canadian roads. Modelling vehicle performance. Elements of railway engineering. Design for trucks. Transportation systems management. Application of intelligent transportation systems. Basic pavement design methods. Introduction to pavement management systems. Highway accidents and design for safety. Legislative and policy framework for transportation engineering. Prerequisite: CIVL 3790 (or 023.379).	Sustainability Related
CIVL 4410 Transportation Systems	Engineering	Civil Engineering	UG	(Formerly 023.441) Contemporary approaches to transportation planning. Data for transportation planning. Advanced demand analysis and modelling. Illustrative transport planning studies. Planning and design for public passenger transportation. Planning and design for barrierfree transportation and transport of disabled persons. Goods movement and trucking studies. Planning and design for motor carrier operations. Planning and design for grain handling and transportation. Transport planning in developing countries. Evaluating transport plans and projects. Transport and the environment. Transport and energy. Vehicle operating costs and engineering unit cost models. Prerequisite: CIVL 3790 (or 023.379).	Sustainability Related
CIVL 4420 Highway Pavement Design	Engineering	Civil Engineering	UG	(Formerly 023.442) Soil classification and properties; soil moisture density strength relationships; earthwork operations and specifications; soil stabilization; granular bases; surface drainage; structural design of flexible and rigid pavements. Prerequisites: CIVL 2770 (or 023.277), CIVL 3790 (or 023.379).	Sustainability Related
CIVL 4460 Technology, Society, and the Future	Engineering	Civil Engineering	UG	Impact of technology and technological change on society past, present, future; specific technologies, e.g. construction, machine power, computers, communications, medical, military; the process of technological change; invisible effects of technology; technology and resource use; sustainable development, limits to growth and the role of technology. Prerequisite: A grade of "C" or better in one of the courses from the list of Written English for Engineering Students, or the former ENGL 1310, or the former ENGL 1320.	Sustainability Focused
CIVL 4470 Watershed Processes	Engineering	Civil Engineering	UG	(Formerly 023.447) Rainfall/runoff processes, flood routing; characteristics and mechanics of flow in (natural) channels; computer modelling of watershed hydrology and hydraulics; influence of manmade structures; river morphology, sediment transport prediction, design of a stable channel; river ice processes. Prerequisite: CIVL 3750 (or 023.375). Pre or corequisite: CIVL 3740 (or 023.374).	Sustainability Related
CIVL 4590 Design Project	Engineering	Civil Engineering	UG	An interdisciplinary project based course involving engineering design, teamwork and delivered in studio format. Students are expected to work in preassigned teams under the guidance of professional engineers on a predetermined project. Lecture material will cover project management, construction, environmental and economic issues. Each team will be required to give an oral presentation of their design project. Prerequisite: (ENG 2030 or ENG 2040 (or the former ENG 2010)), CIVL (or the former CIVL 2820), CIVL 3700, CIVL 3740, CIVL 3750, CIVL 3770, and CIVL 3790.	Sustainability Related
CIVL 7090 Water Resources Systems	Engineering	Civil Engineering	G	(Formerly 023.709) The application of operations research/systems analysis techniques to water resources and urban and environmental systems. Prerequisite: permission of instructor.	Sustainability Related
CIVL 7200 Topics in Environmental Engineering	Engineering	Civil Engineering	G	(Formerly 023.720) Includes topics such as energy and the environment, solid waste management, and environmental problems in transport. Topics are studied through case histories of contemporary issues.	Sustainability Related
CIVL 7210 Solid Waste Composting and Disposal	Engineering	Civil Engineering	G	(Formerly 023.721) Advanced engineering principles related to resource recovery and solid waste disposal. Biological conversion technologies and the disposal of solid wastes are discussed in detail.	Sustainability Related
CIVL 7340 Sustainability in Construction	Engineering	Civil Engineering	G	Introduction and overview of sustainable construction and green buildings, green building assessment tools; the green building process; green building design, construction and commissioning, the economics of green buildings and future directions in sustainable construction and green buildings.	Sustainability Focused
CIVL 7660 River Engineering	Engineering	Civil Engineering	G	(Formerly 023.766) Classification of rivers; regime of river channels; channel patterns, sediment transport; design of stable channels; engineering interference (diversions, dams, dredging); river training works; hydraulic model studies of rivers.	Sustainability Related
CIVL 7700 Water Resources Planning	Engineering	Civil Engineering	G	(Formerly 023.770) Principles and methodologies of planning water resources development projects. An evaluation of a major multipurpose project from interdisciplinary viewpoints, incorporating those of designers, planners, critics and political decision makers.	Sustainability Related
CIVL 7710 Coastal Hydraulics	Engineering	Civil Engineering	G	(Formerly 023.771) Mechanics of wave motion; wave and water level predictions; types and design of coastal protection; littoral processes.	Sustainability Related
CIVL 7730 Groundwater Engineering	Engineering	Civil Engineering	G	(Formerly 023.773) The role of geology and hydrogeology in the siting, design of engineering structures; synthesis of groundwater mechanics in various geologic environments; case studies in construction dewatering, groundwater resource evaluation, subsidence, seepage in dams and foundations and slope stability; basic review of analytic solutions and numerical methods.	Sustainability Related
CIVL 7750 Advanced Civil Engineering Systems	Engineering	Civil Engineering	G	(Formerly 023.775) Optimization of Civil Engineering Systems. Use of linear and dynamic programming and network theory in all aspects of civil engineering. Introduction to the use of stochastic processes in operations research. Particular emphasis is given to water resources and environmental and transportation engineering.	Sustainability Related
CIVL 7820 Operational Hydrology	Engineering	Civil Engineering	G	(Formerly 023.782) Hydrographic analysis; relation between the physical processes and the hydrograph; estimation and prediction. Floods; statistical analysis; maximum probable floods. Water supply; estimates of dependable flow, simulation, synthetic flow series, statistical analysis.	Sustainability Related
CIVL 7920 Theory of Water Treatment	Engineering	Civil Engineering	G	(Formerly 023.792) Physical and chemical characteristics of water; water treatment processes including coagulation/flocculation, sedimentation, filtration, softening, adsorption, ion exchange, disinfection, and membrane processes.	Sustainability Related
CIVL 7930 Theory of Waste Treatment	Engineering	Civil Engineering	G	(Formerly 023.793) Characteristics of waste specific and generic determinations; unit operations and unit process for physical, chemical and biological treatment and transformation of particulate and dissolved contaminants. Biochemical transformations and degradation of hazardous pollutants; unit processes for enhanced nutrient removal and hazardous waste treatment. Full treatment trains for industrial and municipal waste treatment, including solids handling. Prerequisite: CIVL 3700 (or 023.370) and CIVL 3690 (or 023.369) or permission of instructor.	Sustainability Related
CIVL 7950 Environmental Engineering Laboratory	Engineering	Civil Engineering	G	(Formerly 023.795) Laboratory work in water and wastewater analysis and treatment processes related to water quality management. Prerequisites: CIVL 7930 (or 023.793) and CIVL 7920 (or 023.792).	Sustainability Related
CIVL 7960 Environmental Engineering Design	Engineering	Civil Engineering	G	(Formerly 023.796) Design of unit operations. Planning, cost effectiveness analysis, and conceptual design of a whole wastewater treatment plant. Prerequisites: CIVL 7930 (or 023.793).	Sustainability Related

COUN 0252 Understanding Family Violence	Extended Education	Social Sciences	UG	This course is designed to help students develop a theoretical understanding of family violence. An overview of the individual, familial and societal theories of family violence will be presented including an examination of how specific theoretical perspectives have helped shape different government policies and community services. The course will also review the current controversies, new approaches and cultural issues in the area of domestic violence intervention. Through both discussion and written assignments students will have the opportunity to apply their theoretical knowledge to specific case studies.	Sustainability Related
CUCA 0106 The Role of the Student and Student Needs	Extended Education	CHERD	UG	This course will serve as a primer in viewing students and student success from a wider perspective, which includes student development and understanding the needs of a diverse group of students. The course will also review the relationships between students and post secondary institutions as well as approaches to contemporary student issues (e.g. use of technology). Having knowledge about students and their needs can inform our work with students and thereby guide our interactions, the provision of services, and implementation of programs to foster student success.	Sustainability Related
CUCA 0112 Conflict Resolution: An Introduction	Extended Education	CHERD	UG	Although Conflict is often regarded negatively, in this course, we will examine how it can be constructive. This course will also contemplate processes for resolving disputes with disputants who are seemingly adverse or oppositional to one another.	Sustainability Related
CUCA 0120 Supporting International Students	Extended Education	CHERD	UG	This course is intended for international student counselors and administrators, who need to understand the legal situation of the international student and their status under the Immigration and Refugee Protection Act, then help the students through the process of remaining temporarily and perhaps permanently in Canada.	Sustainability Related
CUCA 0122 Supporting Students with Disabilities	Extended Education	CHERD	UG	This course will review the history of the disability movement and explain the distinctiveness of different types of disabilities. In addition, this course will discuss how "invisible" disabilities affect those with the disability as well as those around them. Also, we will be learning about how culture and background affect our understanding of this changing environment. This course will help us to understand the diversity among us, and give sound practices for being creative and making decisions on our campuses. We will be using Universal Design principles as a way of blending our differences for a friendly and productive campus.	Sustainability Related
CUCA 0124 Working with Cultural Differences	Extended Education	CHERD	UG	This course is intended to increase awareness, knowledge and skills required for successful crosscultural interactions, for building inclusive environments, and for tapping into the benefits and strengths of diversity.	Sustainability Related
CUCA 0132 Key Performance Indicators and Accountability	Extended Education	CHERD	UG	In this course we will explore the concept of quality and the growth of the quality movement. We will discuss principles that help us develop meaningful KPIs. We will also evaluate the strengths and weaknesses of commonly used KPIs and apply this information by developing KPIs to meet the needs of certain environments. We will then examine the impact that accountability movements have on different stakeholders in postsecondary environments both in Canada and around the world. Throughout all aspects of the course, we will explore the accountability movement's multidimensional aspects, the growing importance of quality mandates and key performance indicators (KPIs), and the need for effective data and information when developing and implementing new accountability initiatives.	Sustainability Related
CUCA 0134 Strategic Planning at the Unit Level	Extended Education	CHERD	UG	The course explores the important sequential steps in a comprehensive strategic planning process. It is an interactive course that allows participants to work through many of these steps and opportunities to share their experiences and perceptions on the process and planning itself. A strategic planning framework helps participants deal with external and internal forces faced by their units or institutions in today's rapidly changing environment. It is important to understand that the process an institution/unit will undergo in developing the plan is often perceived as more important than the actual documents developed or plans produced. The process of planning will provide skills needed by the unit in order for it to be successful.	Sustainability Related
CUCA 0150 Aboriginal Students and the PostSecondary Education Journey: Challenges and Successes	Extended Education	CHERD	UG	This course will review postsecondary Aboriginal strategies; examine successes; and lingering challenges and the possible next steps to increase student retention.	Sustainability Related
CUCA 0216 External Influences on Universities and Colleges	Extended Education	CHERD	UG	The objective of this course is to provide students with an introduction to some of the external influences that affect the administration of universities and colleges. Universities and colleges, like most organizations, strive to be independent but in reality are part of a larger network of interrelationships which impacts on all levels of administration. This course focuses on three of the many players that affect decisionmaking at universities and colleges. The first of these is the Federal Government that provides funding through cost sharing arrangements with provincial governments and administers the Federal Student Loan Program. The Federal Government is also the major provider of university research grants. The second major players are the provincial governments who create and fund our Canadian universities and colleges, and, finally, professional societies, who through provincial legislation, regulate many of the professions whose members are trained at a university or college. Each of these players impact on key decisions that are made by administrators. The major objective of this course is to identify how these players impact on what we do as administrators so we may better understand the complex environment in which we work.	Sustainability Related
DAGR 0420 Introductory Soils and Crops	Agricultural and Food Sciences	Agriculture Diploma	UG	(Formerly 065.042) Topics covered will include soil forming factors; soil characteristics, climate, nutrient supply and crop production, biology of crop plants, crop establishment and protection, harvest management, farming systems and crop rotations.	Sustainability Related
DAGR 0610 Advanced Communication and Rural Leadership	Agricultural and Food Sciences	Agriculture Diploma	UG	(Formerly 065.061) A course designed to improve leadership potential and understanding of the rural community.	Sustainability Related
DAGR 0760 Agricultural Law	Agricultural and Food Sciences	Agriculture Diploma	UG	(Formerly 041.076) Discussion of the complexity of the agriculture industry and the laws affecting it. The course will illustrate laws critical for effective planning and the making of sound management decisions respecting the farm operations and agribusinesses. Topics include the Manitoba and Canadian legal systems, major laws affecting agriculture, and resolution of issues in Canadian agriculture. Offered in 2005-2006 and alternate years thereafter.	Sustainability Related
DDSS 3102 Periodontology 3	Dentistry	Dental Diagnostic and Surgical Sciences	UG	This combined didactic and clinical course is designed to provide experience which will allow students to apply their earlier and current didactic learning to the clinical environment. The lecture periods concern themselves principally with verbal descriptions of treatment modalities and techniques, including nonsurgical, surgical intervention and temporomandibular joint problems. Interrelationships with other clinical disciplines also receives considerable attention. May not be held with DDSS 3220.	Sustainability Related
DDSS 3112 Oral Diagnosis and Radiology 1	Dentistry	Dental Diagnostic and Surgical Sciences	UG	This course includes a lecture component covering historytaking, clinical examination, diagnosis and treatment of soft and hard tissue lesions, emergency treatment, dental treatment of patients with systemic disease, and clinical experience. May not be held with DDSS 3200.	Sustainability Related
DENT 4240 Dental Jurisprudence	Dentistry	General Dentistry	UG	(Formerly RST 4160) This course provides an overview of the Canadian legal system. It defines and discusses legal concepts relevant to dentistry including issues in negligence, contracts, confidentiality, business and human rights. Identifying a dentist's legal responsibilities to patients, peers, employees, profession and society will underlie the entire course. May not be held with RST 4160.	Sustainability Related
DS 7010 Disability Studies	Graduate Studies	Disability Studies	G	(Formerly 162.701) Explores the key concepts and issues in disability studies. Includes a critical examination of models and theories of disability, Canadian and other national laws and international standards, social and economic policy, and professional and service responses.	Sustainability Related
DS 7030 Evaluation and Application of Research Methods in Disability Studies	Graduate Studies	Disability Studies	G	(Formerly 162.703) Provides a critical evaluation of quantitative and qualitative research methodologies used in disability studies. Methods to address disability used in different disciplines as well as transformative and empowerment methodologies such as participatory action and feminist disability research will be examined. Pre or corequisite: DS 7010 (or 162.701)	Sustainability Related
DS 7040 Selected Topics in Disability Studies	Graduate Studies	Disability Studies	G	(Formerly 162.704) One key theme will be chosen for each year from the interests and availability of faculty. Topics could include women with disabilities, international dimensions of disability, disability policy and practice, disability organizing and other topics developed over time. Pre or corequisite: DS 7010 (or 162.701)	Sustainability Related
ECE 4140 Power Transmission Lines; Field Effects and Insulation Coordination	Engineering	Electrical and Computer Engineering	UG	(Formerly 024.414) AC and DC transmission line corona and its environmental effects. Electric field calculations; design methods to reduce electric field. Electrostatic and electromagnetic effects. Insulation design for power frequency, switching and lightning induced surges. Insulation coordination, conventional and probabilistic methods. Power apparatus testing criteria and significance. Prerequisite: ECE 3720 (or 024.372)	Sustainability Related
ECE 7030 Advanced Electrical Machines	Engineering	Electrical and Computer Engineering	G	Magnetically coupled circuits, energy conversion principles, field generation in ac machines, windings and inductances, reference frame theory, dc machine and dc drives, scalar control of induction machines, vector control of induction machines, drives for special machines.	Sustainability Related
ECE 7880 Distributed Energy Generation	Engineering	Electrical and Computer Engineering	G	Rationale for distributed generations (DG); Distributed electricity generation technologies (thermal and renewable); Availability of renewable energy resources; Technical and economic evaluation of DG projects; DG grid integration issues and interconnection standards; Microgrids. Prerequisite: Energy Systems I or equivalent course.	Sustainability Related
ECON 1010 Introduction to Microeconomic Principles	Arts	Economics	UG	This course introduces students to the study of microeconomics. Topics include: demand and supply, price determination, market structure and resource allocation; the behaviour of consumers and firms; and market intervention by government. Selected economic topics are examined such as: welfare programs, environmental regulation, the economics of discrimination, pay equity, and taxation. Students may not hold credit for ECON 1010 and any of: ECON 1011 or ECON 1210 (018.121) or ECON 1211 (018.121) or ECON 1220 (018.122) or ECON 1221 (018.122) or the former ECON 1200 (018.120) or the former ECON 1201 (018.120).	Sustainability Related
ECON 1020 Introduction to Macroeconomic Principles	Arts	Economics	UG	This course introduces students to the study of macroeconomics. Topics include: aggregate performance and policy; the determinants of national income, employment and the price level, the role of monetary and fiscal policies in stabilizing the economy and promoting economic growth. Students may not hold credit for ECON 1020 and any of: ECON 1021 or ECON 1210 (018.121) or ECON 1211 (018.121) or ECON 1220 (018.122) or ECON 1221 (018.122) or the former ECON 1200 (018.120) or the former ECON 1201 (018.120).	Sustainability Related
ECON 1220 Introduction to Global and Environmental Economic Issues and Policies	Arts	Economics	UG	(Formerly 018.122) A survey of some major principles and policies characterizing the world economy and the environment. Students may not hold credit for ECON 1220 (018.122) and any of: ECON 1221 (018.122) or ECON 1010 or ECON 1011 or ECON 1020 or ECON 1021 or the former ECON 1200 (018.120) or the former ECON 1201 (018.120).	Sustainability Related
ECON 2020 Macroeconomic Theory 1	Arts	Economics	UG	A study of classical macroeconomic models of the determination of economic aggregates such as national income, consumption, investment, government spending, exports, imports, and economywide variables such as the interest rate, the foreign exchange rate, the price level and inflation, and the unemployment rate. The influence of fiscal and monetary policies on the aggregate economy is examined. Students may not hold credit for ECON 2020 and any of: ECON 2471, the former ECON 2470 (018.247), or the former ECON 2800 (018.280). Prerequisite: [a grade of "C" or better in ECON 1020 or ECON 1021 or the former ECON 1200 (018.120) or the former ECON 1201] or [a grade of "C" or better in both ECON 1210 (or ECON 1211 (018.121) and ECON 1220 (or ECON 1221 (018.122))].	Sustainability Related
ECON 2310 Canadian Economic Problems	Arts	Economics	UG	(Formerly 018.231) Application of economic theory to a broad range of problems such as agriculture, trade, foreign ownership, regional disparities, competition policy, education. Students may not hold credit for both ECON 2310 (018.231) and ECON 2311 (018.231). Prerequisite: a grade of "C" or better in six credit hours of 1000 level Economics.	Sustainability Related
ECON 2350 Community Economic Development	Arts	Economics	UG	(Formerly 018.235) A study of the economic development problems of northern and native communities in Manitoba. Students may not hold credit for ECON 2350 (018.235) and any of: NATV 3120 or the former NATV 4310 (032.431). Prerequisite: none.	Sustainability Related
ECON 2362 Economics of Gender	Arts	Economics	UG	This course will use both neoclassical and feminist economic theory to explore how gender differences may lead to different economic outcomes for men and women, both within families and in the marketplace. Topics covered may include the gender aspects of production (both inside and outside the household), leisure, marriage and divorce, fertility, childcare, education, migration, aging and development. Students may not hold credit for both ECON 2362 and the former ECON 2360. Prerequisite: a grade of "C" or better in ECON 1010 or ECON 1011 or ECON 1210 or ECON 1211 or the former ECON 1200 or the former ECON 1201 (018.120).	Sustainability Related
ECON 2390 Introduction to Environmental Economics	Arts	Economics	UG	(Formerly 018.239) The economics of management of water, air and land resource quality, and the economics of conservation. The economic implications of environmental standards, licensing, criteria and pollution charges will be illustrated by current issues. Students may not hold credit for both ECON 2390 (018.239) and ABIZ 2390 (061.239). Prerequisite: [a grade of "C" or better in ECON 1010 or ECON 1011 or the former ECON 1200 (018.120) or the former ECON 1201 (018.120)] or [a grade of "C" or better in both ECON 1210 (or ECON 1211) or the former 018.121] and ECON 1220 (or ECON 1221) or the former 018.122].	Sustainability Related
ECON 2400 Introduction to Energy Economics	Arts	Economics	UG	(Formerly 018.240) A study of the economic relationships in energy production, consumption, demand and supply, pricing and conservation, energy policy and the development of new and renewable energy sources. Prerequisite: a grade of "C" or better in six credit hours of 1000 level Economics.	Sustainability Related
ECON 2540 Political Economy 1: Production and Distribution	Arts	Economics	UG	(Formerly 018.254) A study of the theories, institutions, policies and relations of power in national and global economic society with reference to the production of market and nonmarket goods and services and the distribution of necessary and surplus output. Particular attention will be given to the role of the state in the regulation of markets and the distribution of surplus. Prerequisite: a grade of "C" or better in six credit hours of 1000 level Economics.	Sustainability Related
ECON 2550 Political Economy 2: Economic Growth and Fluctuations in a Global Economic Environment	Arts	Economics	UG	(Formerly 018.255) A study of the theories, institutions, policies and relations of power in national and global economic society with reference to economic growth, international trade and finance, economic fluctuations, inflation and unemployment. Particular attention will be given to the role of the state in the regulations of macroeconomic activity. Prerequisite: a grade of "C" or better in ECON 2540 (018.254).	Sustainability Related
ECON 2630 An Introduction to the World's Economies	Arts	Economics	UG	(Formerly 018.263) An examination of the world's economies from a broad-based economics perspective (including economic theories, institutional perspectives and historical evidence) to explore the development and limits the world's spending and diffusion economies, and economic growth patterns in the light of the private business sector, labour relations and the role of the state. Students may not hold credit for both ECON 2630 (018.263) and ECON 2620 (018.262) Special Topics in Economics when titled Introduction to the World's Economies. Prerequisite: a grade of "C" or better in six credit hours of 1000 level Economics.	Sustainability Related
ECON 3362 Labour Economics 1	Arts	Economics	UG	An introduction to labour economics, including labour supply, labour demand and the determination of wages and employment. Students may not hold credit for both ECON 3362 and the former ECON 3360 (018.336). Prerequisite: a grade of "C" or better in ECON 2010 or ECON 2451 or the former ECON 2450 (018.245) or the former ECON 2700 (018.270).	Sustainability Related

ECON 3364 Labour Economics 2	Arts	Economics	UG	Analysis of topics in labour economics such as unemployment, immigration, gender discrimination and the impact of unions. Students may not hold credit for both ECON 3364 and the former ECON 3360 (018.366). Prerequisite: a grade of "C" or better in ECON 3362.	Sustainability Related
ECON 3374 Public Expenditure Analysis and Policy Evaluation	Arts	Economics	UG	The study of the role of government in the economy, government expenditure issues, benefits analysis, as well as government intervention regulation, public pricing, and ownership issues. Students may not hold credit for both ECON 3374 and the former ECON 3370 (018.337). Prerequisite: a grade of "C" or better in ECON 2010 or ECON 2453 or the former ECON 2450 (018.245) or the former ECON 2700 (018.270).	Sustainability Related
ECON 3392 An Introduction to Development Economics	Arts	Economics	UG	The definition and major challenges of development and an introduction to theories of growth and development. Students may not hold credit for both ECON 3392 and the former ECON 3390 (018.339). Prerequisite: a grade of "C" or better in ECON 2010 or ECON 2453 or the former ECON 2450 (018.245) or the former ECON 2700 (018.270) and [a grade of "C" or better in ECON 2020 or ECON 2471 or the former ECON 2470 (018.247) or the former ECON 2800 (018.280)] or written consent of instructor.	Sustainability Related
ECON 3394 Development Economics: Problems and Policies	Arts	Economics	UG	Processes and problems of development policies to accelerate change. Economic relations between developed and developing regions. Students may not hold credit for both ECON 3394 and the former ECON 3390 (018.339). Prerequisite: [a grade of "C" or better in ECON 2010 or ECON 2453 or the former ECON 2450 (018.245) or the former ECON 2700 (018.270)] and [a grade of "C" or better in ECON 2020 or ECON 2471 or the former ECON 2470 (018.247) or the former ECON 2800 (018.280)] and [a grade of "C" or better in ECON 3392 or ECON 2630 (018.263)] or written consent of instructor.	Sustainability Related
ECON 3661 La pensée économique et les institutions sociales	Arts	Economics	UG	[L'ancien 018.366] L'évolution de la pensée économique dans son interaction avec l'évolution des institutions sociales et les conditions matérielles et intellectuelles des diverses époques. L'étudiant(e) ne peut se faire créditer à la fois le ECON 3661 (018.366) et le ECON 3660 (018.366). Préalable: [une note minimale de C dans six heures-crédits au niveau 1000 en sciences économiques] ou autorisation écrite du professeur. Donné à l'Université de Saint-Boniface.	Sustainability Related
ECON 3670 International Trade	Arts	Economics	UG	(Formerly 018.367) A study of the theory of international trade and modern trade issues including the effect of economic integration on growth, distribution, national policy and the environment. Prerequisite: a grade of "C" or better in one of: ECON 2010 or ECON 2453 or the former ECON 2450 (018.245) or the former ECON 2700 (018.270). ECON 3010 or ECON 2461 or the former ECON 2460 (018.246) is recommended.	Sustainability Related
ECON 3692 Economic Determinants of Health	Arts	Economics	UG	The objective of this course is to provide an economic perspective on the epidemiological transition from infectious to chronic disease. This course will contrast the biomedical, consumer choice and political economy approaches and their policy implications. Prerequisite: a grade of "C" or better in ECON 1010 or ECON 1011 or ECON 1210 (018.121) or ECON 1211 (018.121) or the former ECON 1200 (018.120) or the former ECON 1201 (018.120).	Sustainability Related
ECON 3710 Sustainable Development: Issues and Policy	Arts	Economics	UG	(Formerly 018.371) An examination of the theory and practice of economic sustainability, ecological sustainability, and social sustainability, with emphasis on analysing current issues and designing policies to achieve sustainable development. Prerequisite: a grade of "C" or better in six credit hours of 1000 level Economics.	Sustainability Focused
ECON 3720 Urban and Regional Economics and Policies	Arts	Economics	UG	(Formerly 018.372) An introduction to the study of the determinants of the spatial distribution of economic activity among urban centres and regions. Particular attention will be paid to such contemporary Canadian problems as regional disparities, urban and environmental decay, and urban renewal, and the policy issues involved in dealing with these problems. Prerequisite: a grade of "C" or better in ECON 2010 or ECON 2451 or the former ECON 2450 (018.245) or the former ECON 2700 (018.270).	Sustainability Related
ECON 4430 Theories of Economic Development	Arts	Economics	UG	(Formerly 018.443) A study of theories, problems, and policies of economic growth and development both for advanced and underdeveloped countries. Prerequisite: written consent of department head. ECON 2020 (or the former ECON 2800 (018.280)) and ECON 3020 (or the former ECON 3800 (018.380)) are recommended but not required.	Sustainability Related
ECON 4820 Workshop on Canadian Economic Policy	Arts	Economics	UG	(Formerly 018.482) In depth examination of policy issues on selected topics such as unemployment, inflation, international trade, transfer payments, health care, the environment. A major research paper will be expected of all students. Students may not hold credit for ECON 4820 (018.482) and any of: ECON 4822 or the former ECON 4830 (018.483). Prerequisite: [a grade of "C" or better in each of ECON 2040 (or the former ECON 3170 (018.317)) and ECON 3040 (or the former ECON 3180 (018.318))] and [a grade of "C" or better in ECON 2010 (or ECON 2451 or the former ECON 2450 (018.245) or the former ECON 2700 (018.270))] and [a grade of "C" or better in ECON 3010 (or ECON 2461 or the former ECON 2460 (018.246) or the former ECON 3700 (018.370))] and [a grade of "C" or better in ECON 2020 (or ECON 2471 or the former ECON 2470 (018.247) or the former ECON 2800 (018.280))] and [a grade of "C" or better in ECON 3020 (or ECON 2481 or the former ECON 2840 (018.248) or the former ECON 3800 (018.380))]. Registration is restricted to students who have formally declared an Advanced Major in Economics or Honours Economics.	Sustainability Related
ECON 7040 Topics in Applied Microeconomics I	Arts	Economics	G	Advanced study in a selected topic in applied microeconomics. Topics covered in rotation include, but are not limited to labour economics, health economics, public finance, industrial organization, international trade, environmental economics, evaluation of public policy, production economics and applied game theory. Prerequisite: A grade of C+ or better in ECON 7722 or former ECON 7720 (018.772).	Sustainability Related
ECON 7050 Topics in Applied Microeconomics II	Arts	Economics	G	Advanced study in a selected topic in applied microeconomics. Topics to be covered in rotation include, but are not limited to labour economics, health economics, public finance, industrial organization, international trade, environmental economics, evaluation of public policy, production economics and applied game theory. Prerequisite: ECON 7722 or former ECON 7720 (018.772).	Sustainability Related
ECON 7150 Evaluation of Public Policy and Programs	Arts	Economics	G	This course will provide students with an advanced and critical understanding of the foundations and assumptions of modern program evaluation using cost benefit, cost effectiveness, public decision/choice theory and economic analysis. Case examples are drawn from government and nongovernment programs. Prerequisite: written consent of instructor.	Sustainability Related
ECON 7630 Theory of International Trade	Arts	Economics	G	(Formerly 018.763) Theories of trade flow, trade and income distribution; economic growth and changes in trade flows; instruments of trade intervention; international labour and capital movements; and economic integration.	Sustainability Related
ECON 7790 Advanced Labour Economics	Arts	Economics	G	(Formerly 018.779) A review of the theoretical and empirical foundations of modern labour economics.	Sustainability Related
EDTC 0210 Digital Literacy	Extended Education	Education Technology	UG	To be literate in a particular age (or subset of society) is to possess proficiency in the media and tools of the generation. Organizations today expect employees to be literate with text, scientific thinking, media, images and increasing social technologies. The American Library Association defines information literacy as "the set of skills needed to find, retrieve, analyze, and use information."	Sustainability Related
EDTC 0230 Open Educational Resources	Extended Education	Education Technology	UG	Since the early 2000's, open educational resources have grown in public awareness and influence for academic administrators and educators. When prominent institutions such as Yale, Harvard and MIT begin to freely share their educational resources, academics are provided with a wealth of resources to incorporate into existing classrooms. Open educational resources create a climate for educators to freely build on each other's work. But OERs are about more than using content created by large institutions. The openness movement has started to impact scholarship and journals creating new models of open access and publishing. What are the key drivers for the openness movement? Where can educators find quality open content? How can educators join existing OER communities in their own discipline? This course will address these important questions.	Sustainability Related
EDUA 1560 Adult Learning and Development	Education	Educational Administration, Foundations and Psychology	UG	(Formerly 129.156) A study of the extensive knowledge of lifespan development and its importance for adult education practitioners. With a focus on development, learning and change, emphasis is placed on the importance of context and individual differences in adult learning.	Sustainability Related
EDUA 1570 Foundations of Adult Education	Education	Educational Administration, Foundations and Psychology	UG	(Formerly 129.157) An introduction to the field of Education from a local and global perspective. Attention will be given to historical movements in adult education, philosophical perspectives, participation and motivation, transformative perspectives on adult learning, and current and future perspectives on adult education. Not to be held with EDUA 5300 (or 129.530) or former 116.532.	Sustainability Related
EDUA 2800 Psychology of Learning and Instruction 2: Inclusive Special Education	Education	Educational Administration, Foundations and Psychology	UG	(Formerly 129.280) An examination of concepts and issues related to meeting the diverse needs of all students including methods and resources for accommodating student diversity in classrooms and schools. Not to be held with the former 043.305. Pre or corequisite: EDUA 1800 (or 129.180).	Sustainability Related
EDUA 2901 Le rôle de l'école dans la société	Education	Educational Administration, Foundations and Psychology	UG	Étude du système scolaire canadien et manitobain, dans le contexte d'une société diversifiée. Ce cours vise, dans un premier temps, à faire prendre conscience des enjeux historique, philosophique, sociologique et transculturel liés à l'enseignement. Dans un deuxième temps, il amènera les étudiantes et étudiants à comprendre le rôle de l'enseignant et de l'enseignante au sein de l'organisation du point de vue professionnel, légal et administratif.	Sustainability Related
EDUA 3000 - Canadian School Systems & Their Public Purposes	Education	Educational Administration, Foundations and Psychology	UG	The purpose of the course is to explore with teacher candidates the ways in which schooling and teachers work is shaped by, and shapes, particular administrative, social, political, economic, historical, legal, organizational, and professional contexts. May not be held with EDUA 2810.	Sustainability Related
EDUA 3201 Diversité culturelle dans les écoles	Education	Educational Administration, Foundations and Psychology	UG	Les écoles accueillent un grand nombre d'élèves provenant de groupes sociaux marginalisés selon, entre autres, leur race, leur ethnie, leur langue maternelle, leur religion, leur orientation sexuelle ou leur statut socioéconomique. Étude de la question de la diversité culturelle, prise dans un large cadre, dans le contexte de l'enseignement. Acquisition des connaissances ainsi que des attitudes et des stratégies nécessaires pour favoriser l'équité et la qualité des apprentissages des élèves, peu importe leurs antécédents, leurs particularités ou leurs circonstances.	Sustainability Related
EDUA 3313 Perspectives autochtones en contexte scolaire	Education	Educational Administration, Foundations and Psychology	UG	Introduction aux perspectives culturelles autochtones et métisses en contexte scolaire : dimensions historique, anthropologique, éthique et pédagogique. Développement de compétences professionnelles relatives à l'enseignement dans un environnement autochtone et métis.	Sustainability Related
EDUA 3400 Aboriginal Education	Education	Educational Administration, Foundations and Psychology	UG	A study of fundamental issues, philosophies, and models of Aboriginal education. Within a multimodal and interactive setting, cultural, spiritual, social, and political perspectives regarding Aboriginal education will be critically explored. May not be held with EDUA 1500.	Sustainability Related
EDUA 3420 Cross-Cultural Education	Education	Educational Administration, Foundations and Psychology	UG	Theory and practical applications related to understanding the complexities of culture, race, ethnicity, social inequality in classrooms, focusing on Aboriginal groups, immigration, and the needs of students in culturally diverse classrooms. May not be held with EDUA 1540.	Sustainability Related
EDUA 3506 Foundations of Moral and Religious Education	Education	Educational Administration, Foundations and Psychology	UG	Examination of the theory and practice of moral and religious education, including curricular and pedagogical issues in both humanistic and religious perspectives. may not be held with EDUA 1510.	Sustainability Related
EDUA 4000 Inclusive Education	Education	Educational Administration, Foundations and Psychology	UG	An examination of concepts and issues related to meeting the diverse needs of all students, including methods and resources that respond to diversity in classrooms and schools. May not be held with EDUA 2800.	Sustainability Related
EDUA 5230 Studies in International Education	Education	Educational Administration, Foundations and Psychology	G	(Formerly 129.523) An examination of educational issues and practices in other countries, especially those of the third world. Emphasis will be given to teaching and administration in developing countries. Not to be held with the former 116.525.	Sustainability Related
EDUA 5241 Problèmes en rapport avec l'éducation interculturelle	Education	Educational Administration, Foundations and Psychology	G	(Ancien 129.524) Étude de problèmes particuliers auxquels les minorités culturelles font face dans le milieu scolaire. On ne peut se faire créditer le EDUA 5241 et les anciens 129.524 ou 116.531.	Sustainability Related
EDUA 5251 Regards sur l'éducation des minorités au Canada	Education	Educational Administration, Foundations and Psychology	G	(Ancien 129.525) Un examen de la nature du développement social au Canada dans le cadre d'un société multiraciale. Étude des questions de relations intergroupes, de politiques en matière d'immigration, de cohésion ethnique, et de tensions décollant de l'intégration versus l'assimilation en rapport avec l'histoire de l'éducation au Canada. On ne peut se faire créditer EDUA 5251 et l'ancien 116.503.	Sustainability Related
EDUA 5520 Ethics in Counselling	Education	Educational Administration, Foundations and Psychology	G	(Formerly 129.552) In this course, participants will be introduced to the Codes of Ethics for counsellors. Major ethical issues related to the following topics will be discussed: informed consent, confidentiality, recordkeeping, boundary issues, training and competence, clinical supervision and multicultural and diversity issues. Participants will get an opportunity to practice various ethical decision making models.	Sustainability Related
EDUA 5570 Family Life Education	Education	Educational Administration, Foundations and Psychology	G	(Formerly 129.557) A study of human sexuality and family relationships. Consideration is given to research findings, teaching resources and the methods, development, and cooperation with home and community. Not to be held with EDUA 5571 or the former 043.517.	Sustainability Related
EDUA 5600 Introduction to Inclusive Special Education	Education	Educational Administration, Foundations and Psychology	G	(Formerly 129.560) A survey course for educators interested in inclusive special education legislative, pedagogical, attitudinal and systemic barriers to inclusion and exemplary inclusive provisions are covered. Not to be held with EDUA 5601 or the former 043.518.	Sustainability Related
EDUA 5630 Assessment and Instruction in Inclusive Special Education	Education	Educational Administration, Foundations and Psychology	G	(Formerly 129.563) An examination of curriculum based and classroom based assessment to guide the instruction of students experiencing learning or behavioural difficulties in inclusive classrooms. Not to be held with EDUA 5631 or the former 043.536. Prerequisite or concurrent: EDUA 5600 or 5601 (129.560)(C) or equivalent.	Sustainability Related
EDUA 5670 Strategies for Organizing Inclusive Classrooms and Schools	Education	Educational Administration, Foundations and Psychology	G	(Formerly 129.567) An examination of the organization and implementation of schoolwide supports for access, learning, socialization, behaviour, family liaison, clinical engagement, and community services. Organizational strategies to enhance consultation, cooperation, collaboration and professional development are included. Not to be held with EDUA 5671 or the former 043.540. Prerequisite or concurrent: EDUA 5600 or EDUA 5601 (129.560)(C) or equivalent).	Sustainability Related
EDUA 5680 Promoting Responsible Behaviour in Educational Settings	Education	Educational Administration, Foundations and Psychology	G	(Formerly 129.568) The course is designed to provide teachers with an understanding of the needs of children who display maladaptive behaviours in a school setting. Conceptualization of behaviour disorders, identification/assessment procedures, and intervention strategies will be studied. The purpose of the course is to enable teachers to generate intervention strategies which are appropriate in an educational setting. Not to be held with EDUA 5681 or the former 043.542.	Sustainability Related
EDUA 5701 Psychologie sociale de l'éducation	Education	Educational Administration, Foundations and Psychology	G	(Ancien 129.570) Examen des facteurs sociaux qui influencent le rendement et l'adaptation de l'élève à l'école. Importance accordée au fonctionnement des petits groupes et aux interactions en classe, ainsi qu'à l'analyse de la structure sociale de l'école et du rôle social de l'enseignant et de l'enseignante. On ne peut se faire créditer le EDUA 5701 (EDUA 5700) (ancien 129.570) et l'ancien 043.508.	Sustainability Related
EDUA 7210 Educational Sociology	Education	Educational Administration, Foundations and Psychology	G	(Formerly 129.721) An examination of the relationship between education and society, with particular attention to ethnicity, family, and socioeconomic status and to the role of the school in the socialization process in the Canadian context. Not to be held with EDUA 7211 (or 129.721) or the former 116.736.	Sustainability Related
EDUA 7250 Comparative Education	Education	Educational Administration, Foundations and Psychology	G	(Formerly 129.725) An analysis of educational systems and problems in selected environments in terms of social, political, economic, cultural and other contexts. Students may not hold credit for both EDUA 7250 (or 129.725) and the former 116.714.	Sustainability Related
EDUA 7600 Seminar in Inclusive Special Education	Education	Educational Administration, Foundations and Psychology	G	(Formerly 129.760) A forum for the discussion of topics related to disability issues. Opportunity will be provided for students to examine issues related to their particular professional and scholarly needs. Not to be held with EDUA 7601 (or 129.760) or the former 043.705. Pre or corequisite: 18 credit hours in Special Education at 5000 level or equivalent (C+).	Sustainability Related



EDUA 7621 Séminaire sur la déficience intellectuelle	Education	Educational Administration, Foundations and Psychology	G	Examen des résultats de la recherche portant sur les problèmes liés à l'enseignement aux personnes ayant une déficience intellectuelle et à leur apprentissage.	Sustainability Related
EDUA 7810 Evaluating Educational Programs	Education	Educational Administration, Foundations and Psychology	G	(Formerly 129.781) An introduction to current approaches to evaluating educational programs. A review of various evaluation methods/approaches, along with consideration of specific design, ethical, consulting and political issues will be the main focus of this course. Specific skills to be developed are the implementation of educational evaluations, data collection and analysis, and final report writing. Not to be held with EDUA 7810 (or 129.781) and the former 043.726.	Sustainability Related
EDUB 1411 L'Enseignement des Sciences de la Nature au Secondaire	Education	Curriculum, Teaching and Learning	UG	(Ancien 081.141) Principes généraux soutenant l'enseignement des sciences, le développement conceptuel, les théories d'apprentissage, la culture scientifique, le caractère de la science, les interactions entre les sciences, la technologie, la société et l'environnement. Accis sur les modèles pédagogiques qui tiennent compte du développement conceptuel chez les apprenants et apprenantes afin de soutenir l'enseignement de divers thèmes scientifiques. Cours obligatoire pour ceux et celles qui veulent enseigner les programmes de sciences de la nature au niveau secondaire.	Sustainability Related
EDUB 3130 Senior Years Curriculum & Instruction: Social Sciences	Education	Curriculum, Teaching and Learning	UG	A curriculum and instruction course for the cluster of subject areas for the Social Sciences: History, Geography, Native Studies. This course provides the foundational principles for the study of curriculum, instructional strategies and assessment in the Social Sciences. May not be held with EDUB 1230. Pre or Corequisite: EDUB 3100.	Sustainability Related
EDUB 3313 Perspectives Autochtones en Contexte Scolaire	Education	Curriculum, Teaching and Learning	UG	Introduction aux perspectives culturelles autochtones et metisses en contexte scolaire dimensions historique, anthropologique, éthique et pédagogique. Développement de compétences professionnelles relatives à l'enseignement dans un environnement autochtone et metis.	Sustainability Related
EDUB 3402 Aboriginal Perspectives and the Curriculum	Education	Curriculum, Teaching and Learning	UG	The course will focus on fostering teacher candidate pedagogical knowledge, orientations and capabilities for developing and implementing curricula for kindergarten through to Grade 12 that reflect Aboriginal perspectives. May not be held with EDUB 1602 or EDUB 1840 when titled "Integrating Aboriginal Perspectives into the Manitoba Curriculum."	Sustainability Related
EDUB 4010 Pedagogy for Sustainable Wellbeing: Science, Mathematics and Social Studies	Education	Curriculum, Teaching and Learning	UG	An exploration and critical reflection on theory, research, and practice in education for sustainability in science, mathematics, and social studies and the ways in which multiple literacies can assist children in consolidating their knowledge and understanding of sustainable wellbeing. Course offered off-campus. May not be held with EDUB 2040, EDUB 2050 or EDUB 2060. Prerequisites: EDUB 3012, EDUB 3014, EDUB 3312. Corequisite: EDUB 4012.	Sustainability Focused
EDUB 4012 Pedagogy in Multiple Literacies: Children as Meaning Makers	Education	Curriculum, Teaching and Learning	UG	A school-based course, taught in collaboration with EDUB 4010 Pedagogy for Sustainable Wellbeing: Science, Mathematics, and Social Studies, providing opportunities for teacher candidates to be immersed with children and teachers in curriculum inquiry related to learning languages/literacies, learning about languages/literacies, and learning through languages. Course offered off-campus. May not be held with EDUB 2000, EDUB 2010, EDUB 2070, and EDUB 2080. Prerequisite: EDUB 3010, EDUB 3312. Corequisite: EDUB 4010.	Sustainability Focused
EDUB 5550 Library Reference and Informational Materials	Education	Curriculum, Teaching and Learning	G	(Formerly 132.555) Principles of reference and research with special emphasis on interdisciplinary investigation; the problems of access to information; types of reference sources, their evaluation and selection for library reference collections; services to library users. Not to be held with the former 063.541.	Sustainability Related
EDUB 5850 Theory and Practice of Designing and Developing Webbased Courses	Education	Curriculum, Teaching and Learning	G	(Formerly 132.585) Theory and practice of the design, development and evaluation of online webbased distance education courses for K12 through adult/postsecondary programs.	Sustainability Related
EDUB 7270 Culture, Citizenship and Curriculum	Education	Curriculum, Teaching and Learning	G	(Formerly 132.727) An examination of the role of school curricula in preserving, transmitting and transforming conceptions and practices of culture and citizenship, with particular reference to social and political education in schools. Not to be held with EDUB 7270 (or 132.727) and the former 063.749.	Sustainability Related
EDUB 7520 Contemporary Curricula in Health and/or Physical Education	Education	Curriculum, Teaching and Learning	G	(Formerly 132.752) An examination of principles and content of health and/or physical education curricula and programs. Logistical and social political factors associated with implementation will be examined. Not to be held with EDUB 7520 (or 132.752) and the former 081.712.	Sustainability Related
EDUB 7990 Seminar in Environmental Education	Education	Curriculum, Teaching and Learning	G	(Formerly 132.799) Designed for students wishing to concentrate on science teaching and learning within the context of environmental education. Existing and projected programs and approaches to environmental education will be subjected to critical analysis. Not to be held with EDUB 7990 (or 132.799) and the former 081.710.	Sustainability Related
EDUC 7130 Language and Identity in Second Language Contexts	Education	Education Ph.D.	G	(Formerly 124.713) An exploration of linguistic and cultural issues arising from the internationalization of English as a second language (ESL) teaching and learning, including current research of linguistic imperialism, linguistic human rights, cultural hybridization, sexual politics, and the feminization of space. Prerequisite: EDUC 7210 (or 132.713) (C) or permission of instructor. This course will present a multidisciplinary introduction to the Planet Earth as both the source of essential resources and as the site of resulting negative impacts. Focus in the course will be provided by addressing important and current topics, case studies, and concepts that the well-educated citizen of the Earth should understand and will include natural and humaninduced processes within a broad range of spatial and temporal scales.	Sustainability Related
EER 1000 Earth: A User's Guide	Environment, Earth and Resources	Environment, Earth and Resources	UG	This course introduces students to basic tourism concepts and the language they will encounter when working in tourismrelated fields. Topics covered include sustainable tourism, travel and events management. Class activities allow students to discuss practical applications of basic tourism concepts and principles. The course will help students become more confident and competent when communicating in English. Prerequisites: minimum PT score of 90 OR ELSS 0602 Presentation and Discussion Skills module II, (min grade C).	Sustainability Focused
ELSO 0700 English For International Tourism Module I	Extended Education	English Language Studies	UG	This course introduces students to basic tourism concepts and the language they will encounter when working in tourismrelated fields. Topics covered include sustainable tourism, travel and events management. Class activities allow students to discuss practical applications of basic tourism concepts and principles. The course will help students become more confident and competent when communicating in English. Prerequisites: minimum PT score of 95 OR ELSO 0700 English for International Tourism module I (min grade C).	Sustainability Focused
ELSO 0702 English for International Tourism Module II	Extended Education	English Language Studies	UG	In this hands-on course, students practice their communication skills and expand their business and marketing knowledge through projectbased activities. The course also provides an overview of the economy in Canada and its place within the global economy. Discussion topics include tourism, film and television, information technology, international trade and import/export. Students analyze case studies to help improve their business vocabulary, complete a twoday volunteer work experience, and improve their understanding of key economic concepts. Prerequisites: minimum PT score of 90 OR ELSS 0602 Presentation and Discussion Skills module II, (min grade C).	Sustainability Related
ELSO 0740 Intercultural Business Communication Module I	Extended Education	English Language Studies	UG	In this hands-on course, students practice their communication skills and expand their business and marketing knowledge through projectbased activities. The course also provides an overview of the economy in Canada and its place within the global economy. Discussion topics include tourism, film and television, information technology, international trade and import/export. Students analyze case studies to help improve their business vocabulary, complete a twoday volunteer work experience, and improve their understanding of key economic concepts. Prerequisites: minimum PT score of 90 OR ELSS 0602 Presentation and Discussion Skills module II, (min grade C).	Sustainability Related
ELSO 0742 Intercultural Business Communication Module II	Extended Education	English Language Studies	UG	In this course, students practice their critical thinking skills and expand their knowledge of current issues through discussion and analysis of newspaper readings. Discussion topics include current issues in Canadian culture, film and television, information technology, international trade and the environment. Students analyze case studies to help improve their vocabulary and critical reading skills. Prerequisites: minimum PT score of 90 or ELSR 0602 Introduction to Critical Reading module II (min grade C).	Sustainability Related
ELSR 0720 Reading the News Module I	Extended Education	English Language Studies	UG	In this course, students practice their critical thinking skills and expand their knowledge of current issues through discussion and analysis of newspaper readings. Discussion topics include current issues in Canadian culture, film and television, information technology, international trade and the environment. Students analyze case studies to help improve their vocabulary and critical reading skills. Prerequisites: minimum PT score of 95 or ELSR 0720 Reading the News module I (min grade C).	Sustainability Related
ELSR 0722 Reading the News Module II	Extended Education	English Language Studies	UG	In this course, students practice their communication skills and expand their knowledge of business and current issues through projectbased activities. Discussion topics include current issues in tourism, film and television, information technology, international trade and import/export. Students analyze case studies to help improve their business vocabulary. Prerequisites: minimum PT score of 90 or ELSR 0602 Introduction to Critical Reading module II (min grade C).	Sustainability Related
ELSR 0740 Business Issues in the News Module I	Extended Education	English Language Studies	UG	In this course, students practice their communication skills and expand their knowledge of business and current issues through projectbased activities. Discussion topics include current issues in tourism, film and television, information technology, international trade and import/export. Students analyze case studies to help improve their business vocabulary. Prerequisites: minimum PT score of 95 or ELSR 0740 Business Issues in the News module I (min grade C).	Sustainability Related
ELSR 0742 Business Issues in the News Module II	Extended Education	English Language Studies	UG	In this course, students practice their communication skills and expand their knowledge of business and current issues through projectbased activities. Discussion topics include current issues in tourism, film and television, information technology, international trade and import/export. Students analyze case studies to help improve their business vocabulary. Prerequisites: minimum PT score of 95 or ELSR 0740 Business Issues in the News module I (min grade C).	Sustainability Related
ENG 1430 Design in Engineering	Engineering	Engineering - Preliminary Year	UG	The creative process; the design process; working in a team. The engineering profession from the perspective of students and professionals. Academic, legal and ethical considerations. Prerequisites: A minimum grade of 60% in PreCalculus Mathematics 40S (or a minimum grade of "C" in MATH SKILLS) and Physics 40S (or passing grade in PHYS 0900 or minimum grade of "C" in PHYS 1050) and Chemistry 40S (or passing grade in CHEM 0900 or minimum grade of "C" in CHEM 1300) or their equivalents.	Sustainability Related
ENG 1900 Occupational Health and Safety Awareness	Engineering	Engineering	UG	Occupational health and safety will be discussed from the perspectives of various professions to understand 1) the issues relevant to individual professions and 2) how these individual perspectives may conflict. The overall goal for the course is to ensure that the student gains an appreciation for the importance of occupational health and safety to society.	Sustainability Related
ENG 2030 Engineering Communication: Strategies for the Profession	Engineering	Engineering	UG	Students work in a teambased environment to produce deliverables comparable to the engineering workplace. Inclass tutorials focus on the sharpening of individual students' writing skills through an analytical, problemsolving and critical thinking approach. Students are exposed to a variety of communicative scenarios and emphasis is placed on development of a repertoire of skills necessary for effective communication in the engineering profession. Not to be held with the former ENG 2010. Prerequisites: ENG 1430 and one of the courses from the list of Written English Courses for Engineering Students.	Sustainability Related
ENG 2040 Engineering Communication: Strategies, Practice and Design	Engineering	Engineering	UG	This teambased course focuses on a rhetorical approach, communication strategies and guided practice in the design of engineering communications. May not be held with the former ENG 2010. Prerequisites: ENG 1430 and one of the courses from the list of Written English Courses for Engineering Students.	Sustainability Related
ENG 4010 Practicing Professional Engineering in Manitoba	Engineering	Engineering	UG	An introduction to the practice of professional engineering in Manitoba, including culture, professional organization and regulation, employability aspects, engineering ethics and law. Prerequisite: Must be enrolled in the InternationallyEducated Engineers Qualification Program (IEEQ).	Sustainability Related
ENG 4020 Professional Engineering Practice in Manitoba	Engineering	Engineering	UG	An introduction to the practice of professional engineering in Manitoba. Professional culture, organization and regulation; industry topics; engineering ethics and law. Emphasis on professional communication development. Restricted to students enrolled in the IEEQ Program. May not be held with ENG 4010.	Sustainability Related
ENG 7010 The Engineering Design Process	Engineering	Engineering	UG	(Formerly 130.701) Consideration of the Engineering Design process and the logic upon which it is based. Explores both the history and possible future directions of the process from technical, social and environmental points of view.	Sustainability Related
ENG 7010 The Engineering Design Process	Engineering	Engineering	G	(Formerly 130.701) Consideration of the Engineering Design process and the logic upon which it is based. Explores both the history and possible future directions of the process from technical, social and environmental points of view.	Sustainability Related
ENTM 0610 Beekeeping	Agricultural and Food Sciences	Entomology	UG	(Formerly 038.061) Introduction to beekeeping that includes economics and marketing of honey and beeswax, equipment and its construction, pollen and nectar plants, pollination, management systems, diseases and pests, honey handling, package bees, wintering of bees, etc.	Sustainability Related
ENTM 0620 Pest Management and Farm Insects	Agricultural and Food Sciences	Entomology	UG	(Formerly 038.062) Characteristics, damage, and identification; insecticide use and safety; life histories and control of common Manitoba livestock, field and farmyard insects. General principles of pest management in agriculture will also be discussed.	Sustainability Related
ENTM 1000 World of Bugs	Agricultural and Food Sciences	Entomology	UG	A survey of insect biology and life styles with emphasis on insect diversity and humaninsect interactions.	Sustainability Related
ENTM 3160 Veterinary and Wildlife Entomology	Agricultural and Food Sciences	Entomology	UG	(Formerly 038.316) An introduction to the insects and their relatives that affect domestic animals, pets and wildlife. Special consideration is given to life histories, insect/host interaction, evolutionary relationships, impact on host vertebrates and pest management. Not all courses are offered every year. Please contact the department regarding course availability.	Sustainability Related
ENTM 3170 Crop Protection Entomology	Agricultural and Food Sciences	Entomology	UG	(Formerly 038.317) A course for students requiring a foundation in entomology and knowledge of major insect pest groups in Western Canada. The pests and principles for their control (chemical, cultural, mechanical, physical and biological methods) are explored with emphasis on the entire ecosystem. Students may not hold credit in ENTM 3170 and 038.413 or 038.431.	Sustainability Related
ENTM 3190 Introduction to Applied Entomology	Agricultural and Food Sciences	Entomology	UG	A course providing a foundation in applied entomology covering topics including: basic insect biology, insect pest management, insect biodiversity and the biological services provided by insects. Online lecture presentations, weekly readings and online laboratories. Prerequisites: none. May not be held with ENTM 3170.	Sustainability Related
ENTM 4250 Pesticide Toxicology	Agricultural and Food Sciences	Entomology	UG	(Formerly 038.425) Action, behaviour, and fate of pesticides in target and nontarget species and in the environment. Past, present, and future chemical control agents will be discussed on the basis of chemical and biochemical knowledge. Prerequisite: A course in biochemistry. Not all courses are offered every year. Please contact the department regarding course availability.	Sustainability Related
ENTM 4280 Aquatic Entomology	Agricultural and Food Sciences	Entomology	UG	(Formerly 038.428) Adaptations and significance of insects to aquatic habitats, with emphasis on identification. Aquatic insects as indicator species of pollution and their response to chemical pesticide application. A collection of aquatic insects is required. Prerequisites: ENTM 2050 (or 038.205); AGE2 2370 (or 065.237) or BIOL 2300 (formerly ZOOL 2370 or 022.237) or BOTN 2370 (or 001.237); or consent of instructor. Not all courses are offered every year. Please contact the department regarding course availability.	Sustainability Related
ENTM 4520 Physiological Ecology of Insects	Agricultural and Food Sciences	Entomology	UG	(Formerly 038.452) The effect of environmental factors such as temperature, moisture, light and other organisms on the physiology and ecology of insects. Prerequisite: ENTM 2050 (or 038.205) or consent of instructor. Not all courses are offered every year. Please contact the department regarding course availability.	Sustainability Related

ENTM 7120 Insect Population Management	Agricultural and Food Sciences	Entomology	G	(Formerly 038.712) Term papers, tutorials and workshops to study systems of managing populations of injurious and useful insects based upon models of the processes of insect population dynamics. Prerequisite: consent of instructor. Not all courses are offered every year. Please contact the department regarding course availability.	Sustainability Related
ENTM 7240 Advances in Physiological Ecology of Insects	Agricultural and Food Sciences	Entomology	G	(Formerly 038.724) The effect of environmental factors such as temperature, moisture, light and other organisms on the physiology and ecology of insects. Prerequisite: ENTM 2050 (or 038.205) or consent of instructor. Not to be held for credit with ENTM 4520 (or 038.452). Not all courses are offered every year. Please contact the department regarding course availability.	Sustainability Related
ENVR 1000 Environmental Science 1 Concepts	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.100) This course will introduce students to the conceptual framework of the environment by examining its physical, biological, and social components. General topics to be considered will include ecological principles and the responses of natural and managed systems to disturbance: population growth; biodiversity and conservation; and environmental sustainability. Not to be held with BIOL 1340 (071.134)	Sustainability Focused
ENVR 2000 Environmental Science 2 Issues	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.200) This course will briefly review the major features of the structure and function of natural systems along with the degree to which these have been compromised. The main component of the course, however, will concentrate on the identification of the issues that underlie environmental degradation, while exploring alternative conditions that have the potential to reverse current trends and ultimately contribute to ecological sustainability. Prerequisite: ENVR 1000 (128.100) (C) or BIOL 1340 (071.134) (C).	Sustainability Focused
ENVR 2180 Introductory Toxicology	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.218) A survey of general principles underlying the effects of toxic substances on biological systems, including consideration of the history, scope and applications of toxicology, the mechanisms of toxic action, and some major types of toxicants. Not to be held with ENVR 2190 (128.219) or BIOL 2380 (BOTN 2180 or 001.218 or ZOOL 2180 or 022.218) or BIOL 2382 (BOTN 2190 or 001.219 or ZOOL 2190 or 022.219) or AGRI 2180 (065.218) or AGRI 2190 (065.219). Prerequisites: [BIOL 1030 or BIOL 1031 or (071.125) (C)], and [(CHEM 1310 or CHEM 1311 (002.131) (C), or CHEM 1320 (002.132) (C)].	Sustainability Related
ENVR 2190 Toxicological Principles	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.219) A survey of general principles underlying the effects of toxic substances on biological systems, including consideration of the history, scope and applications of toxicology, and the mechanisms of toxic action. Not to be held with ENVR 2180 (128.218) or BIOL 2380 (BOTN 2180 or 001.218 or ZOOL 2180 or 022.218), or BIOL 2382 (BOTN 2190 or 001.219 or ZOOL 2190 or 022.219), or AGRI 2180 (065.218) or AGRI 2190 (065.219). Prerequisites: [BIOL 1030 or BIOL 1031 or (071.125) (C)], and [(CHEM 1310 or CHEM 1311 (002.131) (C), or CHEM 1320 (002.132) (C)].	Sustainability Related
ENVR 2270 Environmental Problem Solving and Scientific Thinking	Environment, Earth and Resources	Environment, Earth and Resources	UG	A course to help students develop skeptical and scientific thinking around environmental issues and problems. A multidisciplinary approach will be taken, using current topical issues as examples. Not to be held with (ENVR 2170 or 128.217). Prerequisites: ENVR 1000 (or equivalent) (C), or permission of instructor.	Sustainability Related
ENVR 2350 Technical Communication in the Environmental Sectors	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Lab Required) (Formerly 128.235) An introduction to technical communication skills required for environmental practitioners in research, government, and industry. The course covers technical writing and literature search techniques, business writing including reports, memos and emails, professional presentation skills, and fundamental internet skills. Practical experience is gained through assignments and laboratory exercises. Not to be held for credit with (128.205). Prerequisite: ENVR 1000 (128.100) or BIOL 1340 (071.134) (C), or permission of department head.	Sustainability Related
ENVR 2550 Environmental Chemistry	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Lab Required) (Formerly 128.255) An introduction to the chemistry of the environment. Emphasis will be on the composition of the natural environment and the processes of natural and human-introduced chemical species that take place within it. The course will provide students with the chemical basis for understanding the environment and environmental problems. Not to be held with CHEM 2550 (002.255). Prerequisite: CHEM 1310 or CHEM 1311 (002.131) (C).	Sustainability Related
ENVR 2900 Professional Development in the Environmental Sectors 1	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.290) Through self directed learning students are introduced to the environmental sectors and issues including workplace health and safety, the respectful workplace, managing workloads and expectation, and professionalism. The course is a mandatory requirement to Cooperative Education Option admission. Prerequisite: 30 credit hours of university credit.	Sustainability Related
ENVR 3110 Environmental Conservation and Restoration	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Lab Required) (Formerly 128.311) Environmental conservation and restoration are introduced and approaches based on science and traditional knowledge are contrasted. An emphasis is placed on systems thinking and both local and international case studies. Not to be held with (128.310). Prerequisites: BIOL 2390 (BOTN 2280 or 001.228 or ZOOL 2290 or 022.229) (C), or BIOL 2300 (BOTN 2370 or BOTN 2371 or 001.237 or ZOOL 2370 or ZOOL 2371 or 022.237) (C), or AGEC 2370 (065.237) (C), or permission of department head.	Sustainability Related
ENVR 3160 Environmental Responsibilities and the Law	Environment, Earth and Resources	Environment, Earth and Resources	UG	Environmental responsibilities and their legal framework in terms of policies, legislation, standards and guidelines and the tools to manage responsibility are examined through lectures, case study review and discussion. Environmental liability and due diligence are reviewed in relation to responsibilities of organizations and individuals. Strategies to manage environmental liabilities, including environmental and risk assessment, are also discussed. Not to be held with (ENVR 3150 or 128.315 or ENVR 2650). Prerequisite: ENVR 2000 (C) or permission of department head.	Sustainability Related
ENVR 3180 Methods in Ecotoxicology	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Lab Required) This is a laboratory-based course exploring the development, conduction and application of bioassays, biomarkers, fionidators and biomonitoring in ecotoxicology. Through a laboratory setting, students learn how to perform standard bioassays for a variety of species (plants and invertebrates) as well as systems (aquatic and terrestrial) at different levels of biological organization, from the individual to the ecosystem. Not to be held with (ENVR 3300). Prerequisites: a minimum grade of C in each of ENVR 2180 or BIOL 2380 (BOTN 2180, ZOOL 2180) or AGRI 2180, and a second year course in the Faculty of Science or the Faculty of Agricultural and Food Sciences that has a laboratory component, or permission of department head.	Sustainability Related
ENVR 3250 Environmental Assessment	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Lab Required) (Formerly 128.325) The theory, principles and practices of environmental assessment as a planning and decisionmaking process to identify and mitigate adverse effects of development projects. Environmental assessment is defined in the context of federal and provincial legislation, and applicable standards and guidelines. Laboratory assignments involve practical experiences, case study review and basic report preparation. Prerequisites: A grade of "C" or better in (ABIZ 3550 (061.355) or ENVR 3160 or the former ENVR 3150) and (BIOL 2390 or BIOL 2301 or the former BOTN 2370 or the former BOTN 2371 or the former ZOOL 2370 or the former ZOOL 2371 or AGEC 2370) or ENVR 2900 (or 022.290) or the former BOTN 2280 or the former ZOOL 2290) or permission of department head.	Sustainability Related
ENVR 3340 Circumpolar Cultures and Lifestyles	Environment, Earth and Resources	Environment, Earth and Resources	UG	This course provides an introduction to the culture, lifestyles, belief systems, material culture, art, environmental issues, and politics of Aboriginal Peoples in northern Canada, Greenland, Alaska, Siberia and Scandinavia. Prerequisite: Permission of department head.	Sustainability Related
ENVR 3350 Environmental Management Systems	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.335) This course provides an introduction to environmental management systems and specific material on the ISO 14001 International EMS standard. Auditing principles and techniques are described with specific guidance on auditing an ISO 14001 EMS. Prerequisite: Permission of department head.	Sustainability Related
ENVR 3400 Introduction to Environment and Health	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.340) An overview of the linkages between human health and environmental issues. The course discusses the nature of environmental hazards, human exposure and health outcomes. Major environmental and human health issues such as air pollution, hazardous substances, endocrine disruptors and products in the home are covered. Not to be held with (128.421). Prerequisite: 60 credit hours of university credit.	Sustainability Related
ENVR 3500 Project in Environmental Science	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.350) A research project in any aspect of environmental science, chosen in consultation with the department head and an appropriate supervising faculty member. Written reports and oral presentation on the results of the project will be required. The course is normally available only to final year students in the Environmental Science or Studies Program. Prerequisite: Permission of department head.	Sustainability Related
ENVR 3550 Environmental Analysis	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Lab Required) (Formerly 128.355) An introduction to classical and modern techniques for sampling, sample pretreatment, and analysis of chemical substances in aquatic atmospheric and terrestrial environments and the interpretation of data obtained from such analyses. Not to be held with CHEM 3590 (or 002.347) or (002.355). Prerequisite: ENVR 2550 (128.255) (C), or CHEM 2550 (002.255) (C), or CHEM 2470 (002.247) (C), or permission of department head.	Sustainability Related
ENVR 3750 Green Building and Planning	Environment, Earth and Resources	Environment, Earth and Resources	UG	An overview of the concepts and tools of Green building design and Green Planning. The course covers the history and trends in Green Building and Planning, related policies, tools and techniques. There is a strong emphasis on learning from local case studies through seminars and field trips. Prerequisite: ENVR 2000 and 57 credit hours, or permission of department head.	Sustainability Related
ENVR 3850 Sustainable Manitoba (A)	Environment, Earth and Resources	Environment, Earth and Resources	UG	This course approaches local sustainability issues from an interdisciplinary perspective. By looking at the ecological, social and economic aspects from a variety of discipline perspectives, a fuller understanding of sustainability is achieved. The broad range of perspectives is achieved through participation of guest speakers from other faculties and outside of the university as well as excursion outside the classroom. Not to be held with GEOG 3850. Prerequisite: 60 credit hours of course work, or permission of department head.	Sustainability Focused
ENVR 3900 Professional Development in the Environmental Sectors 2	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.390) Attendance and participation in seminars, conferences and workshops to foster greater interaction between students and practitioners in the environmental sectors. Students improve professional skill sets through assignments and mock interviews. The normal sequence for participation is after completion of ENVR 3980 (128.398). Prerequisites: ENVR 2900 (128.290) (C), and 60 credit hours of university credit.	Sustainability Related
ENVR 3910 Coop Work Term Report 1	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.391) Work term report, completed in conjunction with the coop placement, designed to integrate professional experiences with the concepts and theories explored through academic study. Students must be admitted into the Coop program to be registered, and receive credit. Prerequisite: ENVR 2900 (128.290) (C). Prerequisite or Concurrent Requirement: ENVR 3980 (128.398).	Sustainability Related
ENVR 3920 Coop Work Term Report 2	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.392) Work term report, completed in conjunction with the coop placement, designed to integrate professional experiences with the concepts and theories explored through academic study. Students must be admitted into the Coop program to be registered, and receive credit. Prerequisite: ENVR 3980 (128.398) (P). Prerequisites or Concurrent Requirements: ENVR 3900 (128.390), and ENVR 3990 (128.399).	Sustainability Related
ENVR 3980 Coop Work Term 1	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.398) Work assignments in business, industry, research or government for students registered in the Honours or Major Cooperative program. This course is graded pass/fail. Prerequisite: ENVR 2900 (128.290) (C).	Sustainability Related
ENVR 3990 Coop Work Term 2	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.399) Work assignments in business, industry, research or government for students registered in the Honours or Major Cooperative program. This course is graded pass/fail. Prerequisite or Concurrent Requirement: ENVR 3900 (128.390).	Sustainability Related
ENVR 4000 Multidisciplinary Topics in Environmental Science 2	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.400) Selected topics of current interest in the Environmental Sciences and Studies. Course content to vary with each offering depending on the needs and interests of students and faculty. Prerequisites: Permission of department head, and 60 credit hours of university credit.	Sustainability Related
ENVR 4010 Field Topics in Environmental Science 2	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.401) Field and practical experience in selected topics of current interest in the Environmental Sciences and Studies, with the content to vary depending on the needs and interests of students and faculty. Prerequisite: Permission of department head.	Sustainability Related
ENVR 4020 Extended Field Topics in Environmental Science 2	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.402) Field and practical experience in selected topics of current interest in the Environmental Sciences and Studies, with the content to vary depending on the needs and interests of students and faculty. Prerequisite: Permission of department head.	Sustainability Related
ENVR 4050 Ecosystem Management	Environment, Earth and Resources	Environment, Earth and Resources	UG	This course will provide students with an understanding of the practical applications of ecological science, environmental policy, and resource management approaches in the largescale planning of landscapes. The course will review ecological principles and trace the historical development of the ecosystem concept. Comparisons are made to other possible environmental management approaches. The synthesis of major elements and concepts will be reinforced through case studies on the Manitoba landscape, with an emphasis on practical learning by students through field seminars and group discussions. Not to be held with GEOG 4050. Prerequisite: Permission of department head.	Sustainability Related
ENVR 4060 Biogeography	Environment, Earth and Resources	Environment, Earth and Resources	UG	This course will provide students with a general understanding of the historical, ecological, analytical, and conservation aspects of biogeography. The course will also have a dual focus on the principles and concepts of reasons for the distribution of plants and animals worldwide, as well as incorporating discussion on as many local (Manitoba, Canada, North America) examples as possible. Not to be held with GEOG 4060. Prerequisite: Permission of department head.	Sustainability Related
ENVR 4110 Critical Thinking and the Environment	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Lab Required) (Formerly 128.411) Topical issues and responses regarding the environment including conservation, management, and policy making are critically evaluated at local, national, and global scales. Term projects emphasizing applied work with environmental organizations and researchers are presented. Not to be held with (128.410 or 001.468). Prerequisites: ENVR 2000 (128.200) (C), and 72 credit hours of course work, or permission of department head.	Sustainability Related
ENVR 4180 Ecotoxicological Risk Characterization	Environment, Earth and Resources	Environment, Earth and Resources	UG	A biologically based, advanced course that will give students working knowledge of current processes and techniques for ecotoxicological risk characterization. The course material will cover the topics of problem definition, dose response characterization, exposure characterization, risk assessment, and risk management decision making. Prerequisite: ENVR 2180 (128.218) (C), or BIOL 2380 (BOTN 2180, 001.218 or ZOOL 2180 or 022.218) (C), or AGRI 2180 (065.218) (C).	Sustainability Related
ENVR 4400 Advanced Issues in Environment and Health	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.440) An evaluation of global and local environmental health issues and the assessment and management tools used to manage these risks. Case studies of environmental issues and their human health effects are covered. Students have the opportunity to work on a substantial interdisciplinary environmental health project. Not to be held with (128.422). Prerequisite: ENVR 3400 (128.340) (C).	Sustainability Related
ENVR 4550 Aquatic Chemistry	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.455) An examination of biogeochemical processes affecting the distribution, speciation and bioavailability of chemical substances in the aquatic environment. The theoretical basis for the chemical behaviour of natural water systems is discussed, as well as the description of the processes involved in wastewater treatment. Not to be held with CHEM 4550 (002.455). Prerequisite: ENVR 3550 (128.355) (C), or (002.355) (C), or CHEM 3590 (C), or (002.347) (C), or permission of department head.	Sustainability Related

ENVR 4650 Advanced Issues in Environmental Law and Policy	Environment, Earth and Resources	Environment, Earth and Resources	UG	This course provides an in-depth review of Canadian law and policy relating to environmental protection and management. In particular, the course describes the laws governing a variety of topics related to the environment, including constitutional responsibilities, federal and provincial environmental legislation, water law, parks and protected areas, wildlife and fisheries management, species at risk, and international law including climate change. Prerequisite: a minimum grade of C in ENVR 3160 (or the former ENVR 2650), or permission of department head.	Sustainability Related
ENVR 4872 Advanced Methods in Geomatics	Environment, Earth and Resources	Environment, Earth and Resources	UG	(lab required) This course focuses on the theory and application of geomatics in spatial problem solving in geography and the environment. The use of geomatics' technologies including GIS, Earth observation and spatial numerical methods will be covered. Students will learn the theoretical underpinning of spatial statistical concepts and will experiment with data exploration, inference and hypothesis testing. Lab assignments will provide practical experience with GIS and other geomatics software as well as CRANR. Not to be held with GEOG 4590 or GEOG 4720 or GEOG 4872. Prerequisite: GEOG 3730 or permission of instructor.	Sustainability Related
ENVR 4910 Coop Work Term Report 3	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.491) Work term report, completed in conjunction with the coop placement, which is designed to integrate professional experiences with the concepts and theories explored through academic study. Students must be admitted into the Coop program to be entered, and receive credit. Prerequisite: ENVR 3990 (128.399) (P).	Sustainability Related
ENVR 4980 Work Term 3	Environment, Earth and Resources	Environment, Earth and Resources	UG	(Formerly 128.498) Work assignments in business, industry, research or government for students registered in the Honours or Major Cooperative program. This course is graded pass/fail. Prerequisite: ENVR 3990 (128.399) (P).	Sustainability Related
EVAR 3004 ARCH TECH 1	Architecture	Environmental Design	UG	Construction materials and structural theory in the analysis and design of simple woodframe, masonry and light steel construction; fundamental passive energy systems and design strategies for material and energy reduction. May not be held for credit with EVDS 1690 or ARCH 6480.	Sustainability Related
EVAR 3006 Architectural Technology 2 Building Construction, Structures & Envelopes	Architecture	Environmental Design	UG	Architectural, environmental and technical aspects of construction focusing on lowrise and medium sized wood, steel and masonry construction including issues of material production/manufacturing, soils, foundation, envelope systems, basic mechanical systems and their integration and acoustic concerns. May not be held for credit with the former EVDS 2670, EVDS 2700, ARCH 6520 or ARCH 6530	Sustainability Related
EVAR 3008 Architecture Design Studio 1	Architecture	Environmental Design	UG	An analytical study of the human condition in relation to the natural and built environment through design oriented research exploration, analysis, evaluation and interpretation of a selected subject of inquiry. Various ways of seeing and making are applied as tools for critical thinking to align content with modes of representation. May not be held for credit with former EVDS 2630 or ARCH 6380.	Sustainability Related
EVAR 3010 Architecture Design Studio 2	Architecture	Environmental Design	UG	Building upon first term explorations, architectural propositions are developed that seek to clarify relations between human habitation and the physical environment in a regional context. Design principles influenced by programmatic, theoretical, historical, technological material and environmental criteria are examined. Prerequisite: EVAR 3008. May not be held for credit with former EVDS 2640 or ARCH 6390.	Sustainability Related
EVAR 4002 Architectural Technology 3 Building Systems	Architecture	Environmental Design	UG	Integrated building systems focusing on multistory steel and concrete construction including: passive and active heating, cooling, and ventilation methods, strategies and designs, electrical, water, communication, security, fire protection, and vertical transportation systems; and building code constraints. May not be held for credit with the former EVAR 3560, EVAR 3570, ARCH 6500 or ARCH 6510.	Sustainability Related
EVAR 4004 Architecture Design Studio 3	Architecture	Environmental Design	UG	This studio focuses on the broader cultural implications of social interaction and the collective inhabitation of the built and natural environments. Architecture design explorations are influenced by a thorough examination of programmatic, theoretical, historical, technological, material and environmental criteria. May not be held for credit with the former EVAR 3680 or ARCH 6490	Sustainability Related
EVAR 4008 Arch Tech 4: Comprehensive Design Technology Report	Architecture	Environmental Design	UG	A technical knowledge project-based course integrating with Arch Studio 4. Comprehensive technology issues include: site; material; energy; structures; construction; sustainability; environmental factors; building code; life safety. Student's work will include analysis, technical drawings and calculations. Corequisite: EVAR 4010 Arch Studio 4	Sustainability Focused
EVAR 4010 Architecture Design Studio 4	Architecture	Environmental Design	UG	The previous terms investigations are further developed and synthesized into a comprehensively designed environment. Architectural propositions seek to clarify specific relations between details and the overall design, through the integration of complex social, cultural, programmatic, theoretical, historical, technological, material and environmental principles, systems and criteria. Prerequisite: EVAR 4004 Architecture Design Studio 3. May not be held with the former EVAR 3690 or ARCH 6410. Corequisite: EVAR 4008 Arch Tech 4.	Sustainability Related
EVDS 1600 Introduction to Environmental Design	Architecture	Environmental Design	UG	(Formerly 079.160) An introduction to the philosophy and pragmatics of design and designing processes and methods. The focus will be on design as a creative, aesthetic and scientific endeavor, and will examine the challenges and roles of environmental designers in society. Available to nonEnvironmental Design students only.	Sustainability Related
EVDS 1602 Visual Literacy	Architecture	Environmental Design	UG	This course examines the contemporary visual environment, its critical historical influences, and more recent cultural impacts. Optics, the structure of images, and the importance of materiality will be examined through various modes of cultural production including emerging media and information networks.	Sustainability Related
EVDS 1660 History of Culture, Ideas and Environment 1	Architecture	Environmental Design	UG	(Formerly 079.166) A brief history of the western creative imagination, part 1. Interdisciplinary survey of cultural periods and key works from the Foundations of Civilization to the Enlightenment, including literary readings, film screenings, and illustrated lectures and discussions. Available to nonEnvironmental Design students only.	Sustainability Related
EVDS 1670 History of Culture, Ideas and Environment 2	Architecture	Environmental Design	UG	(Formerly 079.167) A brief history of the western creative imagination, part 2. Interdisciplinary survey of cultural periods and key works from the 19th to the 21st centuries, including literary readings, film screenings, and illustrated lectures and discussion. Prerequisite: EVDS 1660 (or 079.166). Available to nonEnvironmental Design students only.	Sustainability Related
EVDS 1680 Environmental Technology	Architecture	Environmental Design	UG	(Formerly 079.168) An examination of the scientific principles embodied in the natural laws which govern the science of building, landscape and environmental design in the context of sustainable development. Factors of climate, geology and natural resource systems are introduced. Co-requisite: EVDS 1630	Sustainability Focused
EVDS 2100 Urban Media Lab	Architecture	Environmental Design	UG	An introduction to visual methods of representation and related media including drawing, photography and video. The intention is to critically engage the urban and suburban contexts as a laboratory for investigating cultural values, aesthetic issues, design principles, and representational techniques, "prerequisite" to undertaking design studio work.	Sustainability Related
EVDS 2200 Ecology and Design	Architecture	Environmental Design	UG	An examination of principles of Ecology and Design works in which these tenets are considered, engaged, and/or demonstrated. Topics fundamental to the science of Ecology will theoretically structure the course content. Emphasis will be placed on understanding the forces and systems working within and between natural, social and human environments.	Sustainability Related
EVDS 2300 Materials, Structures and Assemblies	Architecture	Environmental Design	UG	This course provides an introduction to applied statics, construction materials and construction system assemblies for landscape, building, and interior constructions. Construction material properties and applications, including impacts on resource depletion and on sustainable building practices will be introduced along with basic strategies and methods to analyze and calculate forces in simple structures.	Sustainability Focused
EVDS 2400 Visual Media 1	Architecture	Environmental Design	UG	An introduction to technical and freehand drawing processes and techniques, and in various media to develop, to express, and to communicate design intentions. The focus will be directed to abstract and concrete methods of representation. Emphasis will be placed on the integral relationship between thinking, drawing, and making in relation to critically observing the world at large, and in relation to design studio work.	Sustainability Related
EVDS 2500 Design Studio 1	Architecture	Environmental Design	UG	Introduction to the elements and principles of visual and spatial design, design process and techniques, requisite methods of representation and communication, and design intentions. Studio work will explore different ways of space and formmaking, beginning at the site of the body, in both abstract and environmental contexts.	Sustainability Related
EVDS 2702 Natural and Human Systems	Architecture	Environmental Design	UG	An application of the scientific principles embodied in the natural laws which govern environmental design. Aspects of the biophysical factors, energy, human physiology and perception, comfort, and resource management are reviewed in the context of sustainable planning and design practices.	Sustainability Focused
EVDS 2900 Design Studio 2	Architecture	Environmental Design	UG	An exploration of the fundamental relationships between space, form and order in the context of the built environment, from body to place. Pedagogical emphasis will be directed towards design process, cultural intentions, and environmental accountability.	Sustainability Related
EVIE 3004 Materials, Assemblies and Detailing	Architecture	Environmental Design	UG	Workshop and lecture course on materials, joinery and invention. Review of the principles of framing, bracing, and tension applied to casegoods and furniture; exploration of a variety of soft and hard materials and constructions with an emphasis on sustainability. Not to be held for credit with the former EVIE 3630. Prerequisite: EVDS 2200.	Sustainability Focused
EVIE 3006 Interior Design Media	Architecture	Environmental Design	UG	This course develops a student's ability to use drawing as a reflective, problemsolving, designing and visual communication tool; techniques for representing volume, depth and scale, and interfaces with digital photography and media are a focus.	Sustainability Related
EVIE 3012 Interior Light and Colour	Architecture	Environmental Design	UG	This course examines interior lighting and colour theories and concepts emphasizing human and ecological issues, exploration of spatial design strategies and practices. Not to be held for credit with the former EVIE 3610.	Sustainability Related
EVIE 3014 Human Factors and Environmental Experience	Architecture	Environmental Design	UG	Theoretical and practical issues related to human characteristics, needs, behaviours, and interactions with and within the built interior environment.	Sustainability Related
EVIE 3016 Topics in Interior Design	Architecture	Environmental Design	UG	This course will explore topics at the cutting edge of interior design, examining political, economic, sociological and technological influences on current and future directions in interior design; examination of current research, writing, projects and works from related and diverse fields. In-depth, whole building examination of various integrated active and passive environmental controls systems. Focus on working with existing commercial building construction and environmental systems when integrating new interior design and ecological concepts and strategies. Introduction to building performance assessment, construction drawings and schedules. Prerequisite: EVIE 3004 and EVIE 3012. Corequisite: EVIE 4010. Not to be held for credit with the former EVIE 3620.	Sustainability Related
EVIE 4002 Indoor Systems 1	Architecture	Environmental Design	UG	Broad exploration of a variety of contemporary and innovative building technologies and their integration with interior design. Focus on ecological, new building construction concepts and measure, delivered in the context of integrated design team processes and building systems innovation. Integration and coordination of interior architectural elements with active and passive building systems. Prerequisite: EVIE 4002.	Sustainability Related
EVIE 4004 Indoor Systems 2	Architecture	Environmental Design	UG	Design studio with the potential for collaboration, exploring regional and global influences, communication technology, history and temporality in the design of interior environments.	Sustainability Related
EVIE 4012 Interior Design Studio 4.2	Architecture	Environmental Design	UG	A critical examination and appraisal of design for dwelling in the context of settlement with emphasis on representation of diverse positions on key issues in design practice. Studies will include consideration of cross cultural precedents and lessons from around the world.	Sustainability Related
EVLU 3000 History of Designed Environments	Architecture	Environmental Design	UG	An investigation of the relationship between natural and cultural processes in the formation of the built environment, including a review of the methods and strategies employed for site programming, inventory, analysis, and development at different scales of intervention.	Sustainability Related
EVLU 3002 Site Planning	Architecture	Environmental Design	UG	This course will focus on an examination of ecological and technological perspectives on the planning, design and making of the physical environment. This will include a meshing of prediction and advocacy concerning new models of sustainable urbanization, focusing on green technology and infrastructure. Key theories and their application to landscapes at varied scales will be considered along with salient literature, current issues, design precedents and potentials for creative expression and interpretation. Prerequisite: EVDS 2200.	Sustainability Focused
EVLU 3004 Ecology and Design 2	Architecture	Environmental Design	UG	A studio/lecture course that examines the notion of dwelling through spatial design with a concentration at the scale of the precinct in the private to semiprivate realm focusing on the needs of the individual, on spatial qualities, materials, and site design detail. Theoretical, analytical, conceptual design, planning and communication skills in landscape + urbanism will be developed and applied in distinct projects. Emphasis is on habitat by design, issues of contested space, ecological design and sustainability. May include a mandatory field studies trip; location and cost to be determined on a yearly basis.	Sustainability Focused
EVLU 3006 Studio 3: Dwelling/ Precinct/ Everyday Life	Architecture	Environmental Design	UG	A critical exploration of analytical, conceptual, and developmental aspects of design of the public realm in an experimental studio setting. Social, political, economic, communication, and ecological networks will be studied at the scale of neighborhood and community in the urban realm.	Sustainability Related
EVLU 3008 Studio 4: Networks and Infrastructure	Architecture	Environmental Design	UG	An examination through lectures, readings, seminars and essay assignments, of twentieth and twenty first century philosophical thinking, which has been influential in the theory and practice of landscape architecture, planning and urbanism. Emphasis is on ideas, paradigms, and manifestos. This will include a study of the social, political, religious, cultural, technological, and aesthetic forces behind landscape and urbanism, and the forms that these forces have generated.	Sustainability Related
EVLU 3010 Landscape and Urbanism Theory	Architecture	Environmental Design	UG	An examination of the means and methods used to create landscapes that are shaped by earthwork grading. This will include the study of the forces, principles, and techniques in the modelling and manipulation of the ground plane and the resolution of cultural, ecological and hydrological design considerations implicit in landform design.	Sustainability Related
EVLU 3012 Site Morphology and Grading	Architecture	Environmental Design	UG	An introduction to placemaking as an integrated communitybased application of landscape and urbanism concepts, based on topical themes, such as the Great Neighbourhood or Edens Lost and Found.	Sustainability Related
EVLU 3014 Placemaking Fundamentals	Architecture	Environmental Design	UG	An examination of philosophical issues and debates regarding ethics and aesthetics, and their influence and potential upon urban design and urban form in the past and present, and to speculate upon the future. Prerequisite: EVLU 3010.	Sustainability Related
EVLU 4000 Philosophy, Ethics and Aesthetics	Architecture	Environmental Design	UG	A comprehensive introduction to construction materials, methods and processes. Examination of regulatory issues of human safety and techniques for communicating construction proposals with application to how this information is incorporated into contracts. Field trips to nurseries, quarries, lumber yards, and urban sites where students can observe materials transformed to comply with the requirements of designers. Prerequisite: EVLU 3012.	Sustainability Related
EVLU 4002 Construction Materials	Architecture	Environmental Design	UG	An exploration of the design/research relationship, from a critical and creative thinking perspective will be the core of this course, viewing design and research as linked forms of inquiry into space/place transformation. A focus will be on design/research methods and approaches appropriate to informing and investigating designed environments and community design contexts.	Sustainability Related
EVLU 4004 Inquiry by Environmental Design: Researching Space/Place Transformation	Architecture	Environmental Design	UG	An exploration of the design/research relationship, from a critical and creative thinking perspective will be the core of this course, viewing design and research as linked forms of inquiry into space/place transformation. A focus will be on design/research methods and approaches appropriate to informing and investigating designed environments and community design contexts.	Sustainability Related

EVLU 4008 Plants, Ecosystems and Design	Architecture	Environmental Design	UG	The examination of cultural and technical aspects of designing with plants will be explored in an urban context through field investigations, lectures, seminars and assignments. Issues of plant identification, planting design types, their application to contemporary landscape architecture, technical requirements, planting details and ecological integration in the urban environment will be included.	Sustainability Related
EVLU 4010 Community Design Process and Method: Advanced Placemaking	Architecture	Environmental Design	UG	An introduction to the integration of perception, intention and placemaking associated with manifestations of community, especially communities of interest, and systems of 'communities of communities'. A consideration of the relationship of spaceplace transformation and placemaking, via participatory design processes will be examined as part of a critical design and planning process.	Sustainability Related
EVLU 4012 Studio 5: Possible Urbanism(s)	Architecture	Environmental Design	UG	A radical exploration of analytical, conceptual, and sociopolitical aspects of urban public place in an experimental studio setting. An emphasis will be placed on design as mediation between competition demands. The studio incorporates the theory and application of three dimensional simulation technology in design.	Sustainability Related
EVLU 4014 Studio 6: Emergent Futures	Architecture	Environmental Design	UG	This studio integrates planning and design from the scale of urban infrastructure through to design detail in the context of landscape and urbanism. An emphasis is placed on the challenges of relevant equitable environmental and social design in the postindustrial world. The studio incorporates the theory and application of CAD and GIS technology in design.	Sustainability Related
EVLU 4018 Principles of Urban Design	Architecture	Environmental Design	UG	This course will examine urban design principles, practices, and applications including political and social systems, and their impacts on the contemporary urban condition.	Sustainability Related
FIN 4400 Financial Management Practices	Management, I. H. Asper School of Business	Accounting and Finance	UG	Application of theoretical models in finance to realworld problems using cases. Topics include working capital management, longterm investment and financing decisions, valuation, risk management, reorganizations and international financial management. Prerequisite: FIN 3480 (or 009.348) (D).	Sustainability Related
FMLY 1000 Families in Contemporary Canadian Society	Medicine	Community Health Sciences	UG	(Formerly 062.102 and FMLY 1020) This course provides an introduction to issues in contemporary families from an interdisciplinary perspective. Changing and diverse family forms and experiences are reviewed. An overview of issues pertinent to family wellbeing, including but not limited to immigration, poverty, homelessness, racism, addiction, disability, divorce, and physical and mental illness is provided. Not to be held with 062.114 or 062.102 or FMLY 1020.	Sustainability Related
FMLY 1012 Introduction to Social Development	Medicine	Community Health Sciences	UG	This course is an introduction to Social Development with a particular emphasis on families and communities. Social development is concerned with the advancement of the common good, the effective management of social problems, the meeting of human needs, and the equitable distribution of society's resources. As such, this course explores the social factors and conditions that promote or hinder social development and how this affects the wellbeing of individual, families, and communities in contemporary societies. Not to be held with 062.172 or FMLY 1900	Sustainability Related
FMLY 1420 Family Management Principles	Medicine	Community Health Sciences	UG	(Formerly 062.142) An introductory course that uses an ecosystem perspective resources, decisionmaking, planning, implementing, evaluating, and communication within family contexts. Applications to balancing work and family, individual and family stress, family finance, environmental issues, and the use of time and human resources will be made. Not to be held with the former 062.142.	Sustainability Related
FMLY 1900 Families, Housing and Community: An Introductory Perspective	Medicine	Community Health Sciences	UG	(Formerly 062.190) An introduction to understanding housing and community for individuals and families; shelter outside mainstream; neighbourhoods and communities; links between well being and poverty, housing, and community; some policy and program issues; various approaches used in studying this topic. Opportunity for some field experience. Not to be held with 062.172.	Sustainability Related
FMLY 2012 Development, Conflict, and Displacement	Medicine	Family Social Sciences	UG	The course is an introduction to development, conflict, and displacement as they affect individuals, families and communities. Specifically, this course examines the current phenomenon of induced displacement due to social conflicts, natural disasters, or uneven development in developing countries. Students will examine concepts and issues arising from induced displacement and explore community based responses to this problem. Not to be held with FMLY 2900. Prerequisite: 1012 or consent of the instructor.	Sustainability Related
FMLY 2500 Diversity and Families	Medicine	Family Social Sciences	UG	(Formerly 062.235 and FMLY 2350) Using the theoretical frameworks of intersectionality and social ecology, this class addresses how diversity in Canada is influenced by age, gender, ability, ethnicity, race, as well as family relationships, institutions and social policies. A focus on human rights and antiracism education is emphasized. Not to be held with 062.235 or FMLY 2350. Prerequisite: FMLY 1000 (FMLY 1020 or 062.102) or FMLY 1010 or equivalent.	Sustainability Related
FMLY 2600 Foundations of Childhood Developmental Health	Medicine	Family Social Sciences	UG	(Formerly 062.260) This course examines implications of theory and research in child development for promoting developmental health. Laboratory component focuses on working with children and evaluating effects of developmental progress. Prerequisite: Minimum grade of C in FMLY 1010 (062.101). Limited enrolment.	Sustainability Related
FMLY 2800 Family Violence	Medicine	Family Social Sciences	UG	(Formerly 062.280) A survey of the extent and nature of various forms of family violence across the life course. Topics include physical and sexual child abuse, sibling, violence, partner violence, and elder abuse. Emphasis is on prevalence, incidence, causes, consequences and solutions. Prerequisite: FMLY 1010 (062.101) or FMLY 1000 (FMLY 1020 or 062.102) or PSYC 1200 (017.120) or SOC 1200 (077.120).	Sustainability Related
FMLY 2900 Families, Housing and Community: A Development Perspective	Medicine	Family Social Sciences	UG	(Formerly 062.290) Focus is on developmental issues for individuals, families and communities. Of particular interest is the interrelationship between facilitating community development and the facilitating well being of residents. Social, psychological, cultural and political components are considered. Prerequisite: FMLY 1900 (062.190 or 062.172) or consent of instructor.	Sustainability Related
FMLY 3012 Theories of Social Development	Medicine	Family Social Sciences	UG	This course is a survey of social development theories that have influence the study and practice of development since the 1950s. It addresses the question of why theories of social development are necessary and why different theories emerged at particular times in history. This course examines explanations of development and underdevelopment as they impact on individuals, families and communities. Not to be held with FMLY 4900. Prerequisite: FMLY 1012.	Sustainability Related
FMLY 3400 Families as Consumers	Medicine	Family Social Sciences	UG	An examination of the factors that influence the consumer behaviour of individuals and families across the life course, with particular attention to the situation of vulnerable consumers. Theory, education, policy and practice are related to contemporary consumer issues and the impact of consumption behaviour on the environment. Prerequisites: [FMLY 2400 or FMLY 2070 (062.207)] and [ECON 1210 (018.121) or ECON 1220 (018.122) or ECON 1010 or ECON 1020]. Not to be held with the former FMLY 3450 (062.345).	Sustainability Related
FMLY 3610 Developmental Health of Children and Youth	Medicine	Family Social Sciences	UG	(Formerly 062.361) Population health gradients are largely set early in life and are affected by the environments in which children live. This course examines current knowledge of the social determinants of child and adolescent health. Consideration is given to policy implications, including directions for program development and evaluation. Not to be held with the former 062.450. Prerequisite: FMLY 2600 (062.260). Not to be held with 062.450.	Sustainability Related
FMLY 3750 Fundamentals of Health Promotion	Medicine	Family Social Sciences	UG	This course provides an interdisciplinary life course perspective on theories and methods of health promotion. Current research, practices and policies in health promotion targeting individuals, families and communities will be critically reviewed with regard to issues of gender, culture, age, functional ability, socioeconomic status, sexual orientation, and other determinants of health. Prerequisites: HEAL 2600 or PERS 1200 or PERS 1400.	Sustainability Related
FMLY 3780 Introduction to the Development of Programs for Children and Families	Medicine	Family Social Sciences	UG	(Formerly 062.378) An introduction to the theory and practice of program development with special emphasis on programs for children and families. The course will cover techniques for conducting needs assessments, as well as the process of planning and implementing programs to address community need. Prerequisite: HMEC 2000 or HMEC 2050 (028.205).	Sustainability Related
FMLY 3806 Children, Violence and Rights	Medicine	Family Social Sciences	UG	Violence against children in their families takes many forms, from sexual exploitation to honour killings. We will explore, through a child rights lens, the forces contributing to violence against children, its impact on human lives, and approaches to prevention being implemented around the world. Prerequisite: FMLY 2800. Not to be held with FMLY 3804.	Sustainability Related
FMLY 3900 Families, Housing and Community: A Policy Perspective	Medicine	Family Social Sciences	UG	(Formerly 062.390) Examines policy relative to families, housing and community. Primer on public policy process and links to families. Examines housing policies at federal, provincial, and municipal levels and their impact on individuals and families. Opportunity for some field experience. Prerequisite: FMLY 1900 (062.190) or consent of instructor. Not to be held with 062.473.	Sustainability Related
FMLY 4012 Social Development Policies	Medicine	Family Social Sciences	UG	This course examines the formulation of social development policies and the impact of these policies on the wellbeing of individuals, families, and communities. The course uses a seminar format to foster students' capacity to understand and examine policy issues. Students will develop skills in understanding, analyzing, and formulating social development policies. Actual social development case studies will be evaluated and alternative family and community oriented policies discussed. Not to be held with FMLY 3900. Prerequisite: FMLY 1012.	Sustainability Related
FMLY 4220 Aging and Risk in a Global Context	Medicine	Family Social Sciences	UG	This course will take an interdisciplinary perspective on definitions of risk associated with a variety of determinants that shape the daily lived experience of older adults, their families and communities, and the institutions that care for them. Students will evaluate programs, policies and research, and engage in a final project of their choice. Prerequisite or Corequisite: HMEC 2650 or SWRK 2650 or REC 2650 or NURS 2610 or KIN 2610.	Sustainability Related
FMLY 4400 Family Economics: Poverty and Wealth	Medicine	Family Social Sciences	UG	Analysis of principles, major problems and trends in the economic welfare of individuals and families in both the Canadian and global economies. Emphasis on families and their relationships to the economy such as income inequality, family economic policy, human capital, poverty and resource distribution within families. Prerequisites: FMLY 2400 or FMLY 2070 (or 062.207) and [one of ECON 1210 (or 018.121) or ECON 1220 (or 018.122) or ECON 1010 or ECON 1020]. Not to be held with the former FMLY 4450 (or 062.445).	Sustainability Related
FMLY 4480 Work and Family Issues	Medicine	Family Social Sciences	UG	(Formerly 062.448) An exploration of the interface between paid work and unpaid work and families in the Canadian and international contexts. Topics include demographic trends, parenting, child and elder care, management of work/family conflict, development of workplace solutions, and social policy implications. Prerequisite: FMLY 2400 (or FMLY 2070 or 062.207) and 84 credit hours.	Sustainability Related
FMLY 4600 Risk and Resilience in Behavioural and Social Development	Medicine	Family Social Sciences	UG	(Formerly 062.460) The development of behavioural and social difficulties are examined from a risk and resilience perspective. The interaction of factors at all levels of the human ecological system are considered in terms of their impact on increasing risk and/or building resilience in children and youth. Prerequisite: FMLY 2600 (062.260). Not to be held with 062.437.	Sustainability Related
FMLY 4602 Family Relationships, Health and Well-being	Medicine	Family Social Sciences	UG	This course provides an in-depth survey of the interaction between family relationship dynamics, health and well-being across the life course period. The influence of family members on health-related behaviours is reviewed and preventive family-based interventions are evaluated. Prerequisite: FMLY 3600 (or 062.360).	Sustainability Related
FMLY 4604 Children in Adversity	Medicine	Family Social Sciences	UG	Millions of children live with violence, trauma and other adverse circumstances. We will explore the interactions among individual, family, cultural, legal and policy factors as they affect children's developmental pathways in the face of adversity. Prerequisite: FMLY 2600 or FMLY 3600. May not be held with FMLY 4600 or 62.37.	Sustainability Related
FMLY 4606 A Social Justice Perspective on Indigenous Maternal and Child Health	Medicine	Family Social Sciences	UG	This course examines the local and global challenges regarding the health care and health care needs of Indigenous peoples, with particular attention to childbearing women, new mothers, and young children. Interdisciplinary theories and methods applied to the study of Indigenous peoples are critically evaluated from Indigenous and social justice perspectives. Prerequisite: FMLY 2500 (FMLY 2350 or 062.235) or NURS 3330 (049.333) or NATV 1220 (032.122) or NATV 1240 (032.124).	Sustainability Related
FMLY 4800 Senior Seminar in Family Violence and Conflict Resolution	Medicine	Family Social Sciences	UG	(Formerly 062.480) Advanced study in the areas of family violence and/or conflict resolution. Special emphasis is placed upon current research and/or practice. Prerequisite: FMLY 3800 (062.380) and completion of 72 credit hours.	Sustainability Related
FMLY 4802 Family Violence Prevention	Medicine	Family Social Sciences	UG	Family violence prevention theories, research, practices and policies will be critically reviewed with regard to issues such as gender, culture, sexual orientation and others. Prerequisites: FMLY 2800. Not to be held with the former FMLY 4800 (062.480).	Sustainability Related
FMLY 4900 Families, Housing and Community: An Action Perspective	Medicine	Family Social Sciences	UG	(Formerly 062.490) Examines relationships between families, housing and community; impact of communities on children; best practices for enhancing quality of life in communities; participatory processes for working with communities. Significant onsite learning. Emphasis on intercity. Prerequisite: FMLY 2900 (062.290) or FMLY 3900 (062.390) or consent of instructor.	Sustainability Related
FMLY 7220 Management of Family Stress	Medicine	Family Social Sciences	G	(Formerly 062.722) Investigates specific stressor events of contemporary families and suggests ways in which families can meet and manage their responses to these events. Applies theories of family stress and of family resource management to frame and evaluate current research and professional practice.	Sustainability Related
FMLY 7230 Work and Family Interrelationships	Medicine	Family Social Sciences	G	(Formerly 062.723) Advanced study of the earning and caring activities of families and how these activities interrelate at the community, provincial, national, and global levels. Emphasis on relating current research to relevant theoretical perspectives and professional practice.	Sustainability Related
FMLY 7500 Evaluation of Family, Health and Social Development Programs	Medicine	Family Social Sciences	G	This course teaches the theory and practice of program evaluation with a focus on family, health, and social development programs. It will emphasize a utilization focused evaluation approach from a "real world" perspective, including the political and ethical issues related to evaluation. The course will provide a strong theoretical and practical foundation to evaluation common to family, health, and social development programs. Students will choose a particular field on which to develop an actual evaluation plan with an existing agency, and will produce an evaluation report related to a particular program in their field of interest.	Sustainability Related
FMLY 7620 Children and Violence	Medicine	Family Social Sciences	G	(Formerly 062.762) An examination of children's experiences of violence at the levels of families, communities and societies. Relevant theoretical and measurement issues are addressed, as well as the developmental outcomes of various forms of violence. The incidence and prevalence of violence in children's lives is examined. Models of prevention, intervention and policy are explored.	Sustainability Related
FMLY 7800 Family Violence	Medicine	Family Social Sciences	G	(Formerly 062.780) Advanced study of current topics in family violence over the life course. Topics may include child abuse, sibling abuse, parent abuse, courtship violence, partner violence, and elder abuse. Emphasis is on understanding and critiquing current theory and research.	Sustainability Related
FMLY 7920 Globalization, Families and Communities	Medicine	Family Social Sciences	G	This course examines the effects of globalization on families and communities from an interdisciplinary perspective. It has been implicated as one cause of inequality, indebtedness, marginalization, unemployment and homelessness. This course examines how responses to the challenges and opportunities of globalization affect the wellbeing of families and communities.	Sustainability Related
FMLY 7930 Social Development in Theory and Practice	Medicine	Family Social Sciences	G	This advanced seminar examines the concepts and practices of social development in the real world. Specifically, it examines the interplay between theory and practice and the epistemological underpinnings of social development research, programs, and policies as applied to families and communities. Case studies are assessed and critiqued.	Sustainability Related
FOOD 1000 Food Safety Today and Tomorrow	Agricultural and Food Sciences	Food Science	UG	(Formerly 078.100) A contemporary examination of the safety of the food supply where, how and why problems may arise and what is and can be done to consistently achieve high quality, safe food. Controversial issues (residues, organic, biotechnology, irradiation) will be discussed in a balanced manner, and prospects for the future presented.	Sustainability Related

FOOD 4240 Analysis of Water and Wastes	Agricultural and Food Sciences	Food Science	UG	FOOD 4240 Analysis of Water and Wastes Cr.Hrs. 3 (Formerly 078.424) Introduction to the principles and application of the standard methods employed in the analysis of water and wastes in the food processing industry.	Sustainability Related
FOOD 4250 Food Analysis 2	Agricultural and Food Sciences	Food Science	UG	(Formerly 078.433) Advanced techniques employed in the physicochemical analysis of food products as preparation for research, development, and inspection roles in government and in industry. Prerequisite: FOOD 4160 (or 078.416).	Sustainability Related
FOOD 4260 Water Management in Food Processing	Agricultural and Food Sciences	Food Science	UG	The course is devoted to the management of water and wastewater in food processing. The roles of water in food processing, recycle and reuse opportunities, treatment options for water and wastewater are presented. The course also discusses water stewardship in relation to food processing, water and wastewater regulations and implication for HACCP and ISO. Laboratory sessions are designed for the student to become familiar with Standard Methods for the Examination of Water and Wastewater.	Sustainability Related
FOOD 7180 Food Science of Cereal Grains	Agricultural and Food Sciences	Food Science	G	(Formerly 078.718) The course deals with cereal grains used for human food, the structure of constituents, and the relationship of constituent structure to functionality in the processing of the grains into food products. Emphasis will be on constituents and properties that contribute to optimum processing of wheat. Prerequisites: CHEM 2360 (or 002.236) or CHEM 2770 (or 002.277) or MBIO 2360 (or 060.236) or MBIO 2770 (or 060.277), or permission of instructor.	Sustainability Related
FOOD 7200 Advanced Food Microbiology	Agricultural and Food Sciences	Food Science	G	(Formerly 078.720) Detection and quantitation of foodborne microorganisms and related toxins using developing methods, including rapid microbiological assays with a comprehensive account of basic principles and advanced techniques. Prerequisites: MBIO 2100 (or 060.210), FOOD 4150 (or 078.415) or consent of instructor.	Sustainability Related
FOOD 7260 Advanced Meat Science	Agricultural and Food Sciences	Food Science	G	(Formerly 078.726) Builds on fundamental aspects of muscle biochemistry and function to explain how pre- and postharvest technology affect meat quality and safety. Issues of current concern, their resolution as well as recent advances will be discussed. Prerequisite: Consent of instructor.	Sustainability Related
FRAN 4113 Politiques linguistiques et gestion des langues	Arts	French, Spanish and Italian	UG	Présentation des concepts clés de la sociolinguistique appliquée. Les locuteurs et les États face à la gestion du bi ou du plurilinguisme. Les enjeux politiques et économiques de la gestion institutionnelle des langues. La question des langues minoritaires. Exemples d'aménagements linguistiques en francophonie. Politiques et aménagements linguistiques au Québec et au Canada. Préalable : une note minimale de C dans FRAN 2103.	Sustainability Related
FREN 4730 Traduction (A)	Arts	French, Spanish and Italian	UG	(Formerly 044.473) Une formation dans la traduction d'extraits tirés d'oeuvres de prosateurs anglais et français. Seront également traduits des textes de nature technique traitant de l'actualité politique, sociale, économique, juridique, etc. Prerequisite: written consent of department head.	Sustainability Related
GEOG 1280 Introduction to Human Geography	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.128) This course studies aspects of the human world: population, settlement and resources. Not to be held with GEOG 1200 or GEOG 1201 (053.120), or GEOG 1281.	Sustainability Related
GEOG 1290 Introduction to Physical Geography	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.129) This course studies aspects of our physical environment: climate, landforms, soils and vegetation. Not to be held with GEOG 1291 or GEOG 1200 or GEOG 1201.	Sustainability Related
GEOG 1700 Social Justice in the 21st Century: Global Political Economy and Environmental Change	Environment, Earth and Resources	Environment and Geography	UG	Introduces students to political economy and cultural geography through the close analysis of contemporary world events, including but not limited to instances of violent conflict, environmental change, international negotiations, political processes and events, social movements, and policy developments. A multimedia approach will advance students' understanding of geopolitical events from political economy and spatial perspectives. Specific content of the course will change year/year in response to developments in national and world politics. Also offered by the Faculty of Arts as GPE 1700. Students may not hold credit for both GPE 1700 and GEOG 1700.	Sustainability Related
GEOG 2211 Géographie économique (HS)	Environment, Earth and Resources	Environment and Geography	UG	(Ancien 053.221) Introduction à l'expression spatiale des activités économiques. Le cours traite du concept de ressource, de la localisation et de l'utilisation des ressources naturelles, des théories sur les facteurs de localisation des activités industrielles, de l'agriculture et des fondements du développement régional. Donné à l'Université de SaintBoniface. Préalable : une note minimale de C dans un minimum de 3 heures-édits de géographie de niveau 1000 ou l'autorisation écrite du professeur.	Sustainability Related
GEOG 2272 Natural Hazards (PS)	Environment, Earth and Resources	Environment and Geography	UG	Environmental hazards to human settlement and economy are examined with particular attention to meteorological, soil erosion, mass wasting, earthquake and volcanic phenomena. Not to be held with GEOG 2440. Prerequisite: a grade of C or better in one of GEOG 1290, GEOL 1340, or GEOL 1410, GEOG 1291 (053.129), GEOG 1200, GEOG 1201 (053.120), (007.134), GEOL 1360 (007.136) or permission of department head.	Sustainability Related
GEOG 2300 Atmospheric Thermodynamics, Clouds and Precipitation (PS)	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.230) Critical thermodynamic processes are discussed that are associated with the Earth's atmosphere including dry and moist processes, phases of water, stability, cloud development and precipitation processes. Prerequisites: (GEOG 1290 or GEOG 1291 (053.129) (C), or (GEOG 1200 or GEOG 1201 (053.120) (C)), and (MATH 1500 or MATH 1501 (136.150) (C), or MATH 1510 (136.151) (C), or MATH 1520 (136.152) (C), or MATH 1530 (136.153) (C)).	Sustainability Related
GEOG 2310 Introduction to Process Hydrology (PS)	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.231) This course introduces students to the nearsurface components of the hydrological cycle, including the processes of precipitation, evaporation, water-biosphere interactions, infiltration, overland and stream flow. Not to be held with (053.362). Prerequisites: (GEOG 1290 or GEOG 1291 (C), or (GEOG 1200 or GEOG 1201 (053.120) (C)), and (PHYS 1020 or PHYS 1021 (016.102) (C), or PHYS 1050 or PHYS 1051 (016.105) (C), or MATH 1500 or MATH 1501 (136.150) (C), or MATH 1510 (136.151) (C), or MATH 1520 (136.152) (C), or MATH 1530 (136.153) (C)), or permission of department head.	Sustainability Related
GEOG 2330 Place, Populations and Mobility: Geographic Perspectives (HS)	Environment, Earth and Resources	Environment and Geography	UG	An examination of the factors controlling the number and distribution of human population. Variations in fertility, mortality and mobility will be analyzed and the causes and consequences reviewed. Not to be held with GEOG 2480 (053.248). Prerequisite: a grade of C or better in a minimum of three credit hours from Geography courses numbered at the 1000 level, or permission of department head.	Sustainability Related
GEOG 2372 Geography of Tourism (HS)	Environment, Earth and Resources	Environment and Geography	UG	This course examines the social, economic and environmental dimensions of tourism and recreation. Historical and contemporary experiences from around the world will be studied. Not to be held with GEOG 2410 (053.241). Prerequisite: a grade of C or better in (GEOG 1200 or GEOG 1280, or permission of department head.	Sustainability Related
GEOG 2520 Geography of Natural Resources (HS)	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.252) An introduction to the basic concepts of the subject and the distribution of resources. Stress will be placed on Canadian resources and resource requirements but examples from other resource systems will also be used. Prerequisite: a grade of C or better in a minimum of three credit hours from Geography courses numbered at the 1000 level, or permission of department head.	Sustainability Related
GEOG 2530 Introduction to Scientific Geographic Research (TS)	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.253) An introduction to the use of scientific methodology in geography and the application of scientific explanatory frameworks to geographic research projects. Data collection procedures are discussed with particular emphasis on measurement, sampling designs, and interview surveying techniques. Not to be held with (053.247). Prerequisite: a grade of C or better in a minimum of three credit hours from Geography courses numbered at the 1000 level, or permission of department head.	Sustainability Related
GEOG 2540 Weather and Climate (PS)	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.254) This halfcourse examines the nature, controls, and observations of weather and the variation of climate in time and space. Prerequisite: a grade of C or better in a minimum of three credit hours from Geography courses numbered at the 1000 level, or permission of department head.	Sustainability Related
GEOG 2570 Geography of Canada (A)	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.257) A regional study of Canada in which the major regions of Canada are studied with respect to geographical patterns of their physical environment, settlement, culture, economic activity, and land use. Not to be held with GEOG 2560 (053.256), GEOG 2561 or GEOG 3431 (053.343). Prerequisite: a grade of C or better in a minimum of three credit hours from Geography courses numbered at the 1000 level, or permission of department head.	Sustainability Related
GEOG 2580 Geography of the United States (A)	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.258) A regional study of the United States in which the major regions of the United States are studied with respect to geographical patterns of their physical environment, settlement, culture, economic activity, and land use. Not to be held with GEOG 2560, GEOG 2561 (053.256). Prerequisite: a grade of C or better in a minimum of three credit hours from Geography courses numbered at the 1000 level, or permission of department head.	Sustainability Related
GEOG 2630 Geography of Culture and Environment (HS)	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.263) An introduction to the cultural geographic study of environment, focusing on the evolution of landscape, the creation of regions, and human relationships with nature. Prerequisite: (GEOG 1200 or GEOG 1201 (053.120) (C), or GEOG 1280 or GEOG 1281 (053.128) (C), or permission of department head.	Sustainability Related
GEOG 2640 Geography of Culture and Inequality (HS)	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.264) An introduction to the cultural geographic study of human and place inequalities, focusing on behaviour in landscape, group differences, and human identities. Prerequisite: (GEOG 1200 or GEOG 1201 (053.120) (C), or GEOG 1280 or GEOG 1281 (053.128) (C), or permission of department head.	Sustainability Related
GEOG 2661 Géographie politique II	Environment, Earth and Resources	Environment and Geography	UG	(Ancien 053.266) Étude des rapports de force entre les États et leurs relations avec l'espace, les ressources, la population et les groupes ethniques. On ne peut se faire créditer GEOG 2661 et GEOG 2430 (053.243). Préalable : une note minimale de C dans GEOG 2651 (053.265) ou l'autorisation écrite de la professeure ou du professeur.	Sustainability Related
GEOG 2700 Introduction to Arctic System Science	Environment, Earth and Resources	Environment and Geography	UG	This course introduces students to the various components of the Arctic system, including the terrestrial and marine environments, polar atmosphere, biological and chemical oceanography. Prerequisite: (GEOG 1290 or (GEOG 1291)(C), or GEOG 1200 or (GEOG 1201)(C) or ENVR 1000 (C) or GEOL 1340 (C).	Sustainability Related
GEOG 2900 Geography of Canadian Prairie Landscapes (A)	Environment, Earth and Resources	Environment and Geography	UG	This course introduces students to the various geographical themes, concepts and processes within the context of the natural and anthropogenic development of the Canadian prairie region. It traces the evolution of the prairie landscape. It will focus on academic writing in the discipline. Not to be held with GEOG 2450. Prerequisite: a grade of C or better in a minimum of three credit hours from Geography courses numbered at the 1000 level, or permission of department head.	Sustainability Related
GEOG 2930 Introduction to Oceanography	Environment, Earth and Resources	Environment and Geography	UG	This course provides an introduction to the physical, chemical, biological and geological processes in the world oceans and their interactions with the overall Earth system. This course is interdisciplinary, applying geological, chemical and biological processes to the study of the world's oceans. Prerequisite: A minimum grade of "C" in GEOG 1290 (or GEOG 1291) or GEOG 1200 (or GEOG 1201) or ENVR 1000 or GEOL 1340.	Sustainability Related
GEOG 3310 Atmospheric Dynamics, Storms and Radar (PS)	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.313) The course covers the critical dynamic processes that are associated with the Earth's atmosphere including forces that control wind, the kinematics of the wind field, general circulation, hodographs, thermal wind, laws of motion, midlatitude circulations, convective storms and the utility of weather radar. Prerequisite: GEOG 2300 (053.230) (C), or permission of department head.	Sustainability Related
GEOG 3320 Introduction to Microclimates and Micrometeorology (PS)	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.323) This course introduces the concept of energy balance climatology and examines relationships among climate, microclimate, and environments of the Earth's surface and humanmade environments. Studies include bioclimates and hydroclimates. Prerequisites: (GEOG 2310 (053.231) (C), and (GEOG 2300 (053.230) (C)), or permission of department head.	Sustainability Related
GEOG 3340 Migration and Mobility in a Globalized World	Environment, Earth and Resources	Environment and Geography	UG	This course surveys the geographic dimensions of migration and mobility of populations, with emphasis of contemporary events. Prerequisites: a grade of C or better in GEOG 2330 or (GEOG 2480), or permission of department head.	Sustainability Related
GEOG 3390 Introduction to Climate Change and Its Causes (PS)	Environment, Earth and Resources	Environment and Geography	UG	The primary objective of this course is to provide students with a general understanding of the physical and astronomical factors that drive global climate change. Focus will be given to current and future climate change in the context of observations and modeling. Not to be held with GEOG 3610. Prerequisite: a minimum of three credit hours from Geography or Environment courses, or permission of department head.	Sustainability Related
GEOG 3411 Géographie de l'eau	Environment, Earth and Resources	Environment and Geography	UG	(Ancien 053.341) L'eau, élément essentiel de la géographie physique. Bilan d'eau, cycle hydrologique, infiltration, percolation et écoulement, eaux souterraines, hydrologie fluviale et marine. Cours d'eau, lac et océans, environnement. On ne peut se faire créditer GEOG 3411 et GEOG 3410. Préalable : une note minimale de C dans le GEOG 1291 ou GEOG 1290 (053.129) ou l'autorisation écrite de la professeure ou du professeur.	Sustainability Related
GEOG 3421 L'eau, enjeu géostratégique	Environment, Earth and Resources	Environment and Geography	UG	(Ancien 053.342) L'eau, un enjeu stratégique d'importance: un survol historique des enjeux liés à l'eau et les enjeux actuels, la répartition inégale de la ressource .eau. et son partage équitable, les solutions techniques, économiques, institutionnelles et juridiques envisagées et le droit international. Préalable : une note minimale de C dans le GEOG 1280 ou GEOG 1281 (053.128), et les deux GEOG 2651 (053.265) et GEOG 2661 (053.266) (ou le GEOG 2430 (053.243), ou l'autorisation écrite du professeur.	Sustainability Related
GEOG 3460 Urban Geography (HS)	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.346) The course studies the processes and trends of urbanization; the classification of cities; centralplace theory; cities as systems; landuse patterns; social forces and factorial ecology; and urban transport problems. Prerequisite: (GEOG 1200) or GEOG 1201 (053.120) (C), or GEOG 1280 or GEOG 1281 (053.128) (C), or permission of department head.	Sustainability Related
GEOG 3591 Géographie des pays en voie de développement (A)	Environment, Earth and Resources	Environment and Geography	UG	Le thème principal sera la modernisation des pays en voie de développement : exemples de l'Asie méridionale et de l'Afrique noire. Seront étudiés les aspects suivants : le développement historique, les problèmes démographiques et sociaux, l'utilisation du sol et la conservation des ressources, l'urbanisation et l'industrialisation. On ne peut se faire créditer GEOG 3591 et GEOG 3590. Préalable : une note minimale de C dans un minimum de 6 heures-édits de géographie niveau 1000, ou l'autorisation écrite du professeur.	Sustainability Related
GEOG 3640 Social Geography of the Environment (HS)	Environment, Earth and Resources	Environment and Geography	UG	This course provides an intermediate-level assessment of current geographical approaches to society and environment. Students are exposed to critical realist, social constructionist, Marxist, feminist and postColonial traditions as they are applied to environmental and social justice, globalization and public health. It includes discussion and a community-based learning project. Prerequisite: a grade of C or better in (GEOG 1200 or GEOG 1201) or GEOG 1280 or GEOG 1281, or permission of department head.	Sustainability Related
GEOG 3831 L'espace francophone panaméricain (A, HS)	Environment, Earth and Resources	Environment and Geography	UG	(Ancien 053.383) L'étude des communautés francophones des Amériques dans le temps et dans l'espace. La mise en place de la francophonie panaméricaine et les circonstances de son écartement. Ser engeux économiques, sociaux, politiques et culturels. Les infrastructures, les institutions et les réseaux francophones. Préalable : une note minimale de C dans le GEOG 3821 (053.382).	Sustainability Related
GEOG 3841 Les espaces francophones de l'Afrique, de l'Asie et de l'Océanie (A, HS)	Environment, Earth and Resources	Environment and Geography	UG	L'étude des communautés francophones d'Asie, d'Asie et d'Océanie. Les étapes de la colonisation et de la décolonisation, l'évolution vers l'indépendance et l'accès au statut d'État souverain. La mise en place des infrastructures, des institutions et des réseaux francophones. Préalable : une note minimale de C dans GEOG 3821.	Sustainability Related

GEOG 3850 Sustainable Manitoba (A)	Environment, Earth and Resources	Environment and Geography	UG	This course approaches local sustainability issues from an interdisciplinary perspective. By looking at the ecological, social and economic aspects from a variety of discipline perspectives, a fuller understanding of sustainability is achieved. The broad range of perspectives is achieved through participation of guest speakers from other faculties and outside of the university as well as excursions outside the classroom. Not to be held with ENVR 3850. Prerequisite: 60 credit hours of course work, or permission of department head.	Sustainability Focused
GEOG 3860 Animal Geographies (HS)	Environment, Earth and Resources	Environment and Geography	UG	This course presents a variety of topics concerning the interactions between humans and animals, how humans influence and use animals, and the many roles animals play in human lives and environments. Animal Geographies lies at a meeting point between physical and human geography, where we must consider the blurring boundaries between what it means to be animal/human, and the implications of how animals are used and represented. A wide variety of perspectives, beliefs, and points of view will be explored. Prerequisite: Permission of department head.	Sustainability Related
GEOG 3870 Food Geographies	Environment, Earth and Resources	Environment and Geography	UG	This course provides a critical examination of the geographies of food at a variety of scales, from the body to the global. The course focuses on themes in three interconnected areas: 1) food production and the global food system from farm to plate including agribusiness and alternative food production and distribution models; 2) food consumption habits and beliefs and foodways as geographically contingent material culture; and 3) food (in) security and its relationship to health and wellbeing. This course is crosslisted as HNSC 3870. May not be held with HNSC 3870. Prerequisite: a grade of C or better in GEOG 1280 or GEOG 1281 or HNSC 1200 or GEOG 1200, or permission of department head.	Sustainability Related
GEOG 3920 Biological Oceanography 1: Lower Trophic Levels	Environment, Earth and Resources	Environment and Geography	UG	In this course, students will gain a background on the study of biological oceanography. Biological oceanography is a very active and important field of study worldwide due to the spatial coverage and biological activity of the world's oceans. This course examines the interaction of marine organisms with other biological life, as well as with the physical environment. Prerequisite: A minimum grade of "C" in both GEOG 2930 and BIOL 1030.	Sustainability Related
GEOG 4050 Ecosystem Management	Environment, Earth and Resources	Environment and Geography	UG	This course will provide students with an understanding of the practical applications of ecological science, environmental policy, and resource management approaches in the landscape planning of landscapes. The course will review ecological principles and trace the historical development of the ecosystem concept. Comparisons are made to other possible focusing on spatial patterns and trajectories. The synthesis of major elements and concepts will be reinforced through case studies on the Manitoba landscape, with an emphasis on practical learning by students through field seminars and group discussions. Not to be held with ENVR 4050. Prerequisite: Permission of department head.	Sustainability Related
GEOG 4060 Biogeography	Environment, Earth and Resources	Environment and Geography	UG	This course will provide students with a general understanding of the historical, ecological, analytical, and conservation aspects of biogeography. The course will also have a dual focus on the principles and concepts of reasons for the distribution of plants and animals worldwide, as well as incorporating discussion on as many local (Manitoba, Canada, North America) examples as possible. Not to be held with ENVR 4060. Prerequisite: Permission of department head.	Sustainability Related
GEOG 4200 Advanced Methods in Remote Sensing	Environment, Earth and Resources	Environment and Geography	UG	(Lab Required) (Formerly 053.420) Provides instruction in the current theory and application of remote sensing technology to Earth system Science. Emphasis will be placed on the processing and interpretation of remote sensing imagery and the integration of remote sensing data with other spatial data. Not to be held with (053.454). Prerequisite: GEOG 3200 (053.320) (C), or permission of department head.	Sustainability Related
GEOG 4260 Sacred Lands	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.426) Students will increase their understanding of the importance and significance of Sacred Lands and Sacred Spaces to international Indigenous peoples. Experiential learning, seminars, and a field component may be included. Not to be held with NATV 4260 (032.426). Prerequisite: Permission of department head.	Sustainability Related
GEOG 4280 Gender and the Human Environment	Environment, Earth and Resources	Environment and Geography	UG	This upperlevel seminar course will develop in students a depth and breadth of understanding appropriate to the honours undergraduate/graduate level in the area of gender geography scholarship. From critical social science theoretical positions, this course asks students to examine what we can learn about how humans live on the earth if we see them as gendered. Just as we may also understand humans and their interactions in and with spaces, places and environments through the lenses of race, ethnicity, class, age and/or combinations of these categories with gender. Prerequisite: a grade of C or better in a minimum of six credit hours in Geography, or permission of department head.	Sustainability Related
GEOG 4290 Geographies of Health and Health Care	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.429) This course provides an introduction to and critical examination of the geographies of health and healthcare. Topics include perceptions of health and healthcare, focusing on spatial patterns and trajectories. The relationship between environment and health, particularly impacts of environmental contamination. Prerequisite: Permission of department head.	Sustainability Related
GEOG 4300 Synoptic Meteorology and Weather Analysis	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.430) Applied aspects of meteorology are described in terms of weather analysis and forecasting techniques for synopticscales and mesoscales using various meteorological tools. An introduction to severe weather forecasting techniques will also be described. Prerequisite: GEOG 3310 (053.331) (C), or permission of department head.	Sustainability Related
GEOG 4310 BoundaryLayer Climatology and Micrometeorology	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.431) A seminar course on advanced topics in microclimatology and micrometeorology. Prerequisite: GEOG 3320 (053.332) (C), or permission of department head.	Sustainability Related
GEOG 4330 Concepts in Atmospheric Modeling	Environment, Earth and Resources	Environment and Geography	UG	This course will primarily focus on numerical modeling applications and techniques of the Earth's atmosphere with an emphasis on weather prediction. This includes understanding basic modeling terminology, numerical schemes, structure of models, what is required to run a model, and an introduction to data assimilation and ensemble techniques to weather prediction. Not to be held with GEOG 4320. Prerequisite: GEOG 3310 (C) or GEOG 3320 (C), or permission of department head.	Sustainability Related
GEOG 4350 Parks and Protected Areas Planning and Management: Field Studies	Environment, Earth and Resources	Environment and Geography	UG	The course is taught in two segments, an oncampus component and field study component taking place in Banff National Park. The oncampus component examines the historical development of the concept of parks and protected areas, the role of interpretation, management and research in the parks and emerging issues in the management of parks and protected areas. In addition, during the oncampus component planning for the field will take place. The field segment will focus on a wide variety of management issues with particular attention to Banff National Park. Emerging issues and trends will be examined and past management responses evaluated. There will be opportunities for students to investigate specific management issues of interest to them and to participate in current research being conducted in the park. This course is also offered in the Faculty of Kinesiology and Recreation Management as REC 4350. Prerequisite: Permission of department head.	Sustainability Related
GEOG 4390 Global Climate Change	Environment, Earth and Resources	Environment and Geography	UG	Students will be introduced to the complexities of climate changes through a series of introductory lectures and reading assignments that focus on recent scientific publications and review articles (mathematical skills are not required). Both sides of the climate change debate will be addressed in weekly assignments, and students will defend their conclusions in classroom discussion. Each student will take on a project in some aspect of climate change: glaciers, sea ice, temperature trends, precipitation, agriculture, animal migration, aerosols, or a regional impact. Prerequisite: a grade of C or better in GEOG 3390 (or GEOG 3610 or 053.361), or permission of department head.	Sustainability Related
GEOG 4560 Techniques in Climatology	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.456) Instrumentation, the sources of climatic data, and the use of satellite photography, as well as methods of analysis and presentation are discussed. Prerequisite: GEOG 3320 (053.332) (C), or permission of department head.	Sustainability Related
GEOG 4650 Models in Regional Analysis	Environment, Earth and Resources	Environment and Geography	UG	(Formerly 053.465) Emphasis is placed on the use of regression techniques in regional analysis including the classical ordinary least squares methods and twostage least squares. Migration and industrial location models are developed and calibrated using these techniques. Prerequisite: Permission of department head.	Sustainability Related
GEOG 4780 Storms/Mesoscale	Environment, Earth and Resources	Environment and Geography	UG	This course focuses on a range of storms and mesoscale phenomena in the summer or winter. These include thunderstorms, tornadoes, squall lines, lightning, low level jets, gust fronts, blizzards, freezing rain, orographic storm, and polar lows. The emphasis is on the physical mechanisms leading to these events and it also examines how they may change in our changing climate. Not to be held for credit with GEOG 7780. Prerequisite: A grade of "C" or better in GEOG 3310 (053.331) or permission of department head.	Sustainability Related
GEOG 4872 Advanced Methods in Geomatics	Environment, Earth and Resources	Environment and Geography	UG	This course focuses on the theory and application of geomatics in spatial problem solving in geography and the environment. The use of geomatics' technologies including GIS, Earth observation and spatial numerical methods will be covered. Students will learn the theoretical underpinning of spatial statistical concepts and will experiment with data exploration, inference and hypothesis testing. Lab assignments will provide practical experience with GIS and other geomatics software as well as CRANR. Not to be held with ENVR 4872, GEOG 4590 or GEOG 4720. Prerequisite: GEOG 3730 or permission of Instructor.	Sustainability Related
GEOG 4930 Oceanography: Chemical	Environment, Earth and Resources	Environment and Geography	UG	This course deals with the sources, distribution, and transformation of chemical constituents of the oceans, and the processes that control them. The emphasis will be given to biologically or climatically significant elements such as carbon, nitrogen, phosphorus, iron and mercury in the Arctic Ocean. Prerequisite: ENVR 2550 and GEOG 2930 or permission by department head.	Sustainability Related
GEOG 4960 Oceanography: Biological II Higher Trophic Levels	Environment, Earth and Resources	Environment and Geography	UG	This course will examine the oceanographic/biological coupling occurring in the Arctic region, focusing on environmental conditions related to higher trophic levels and impacts of climate change. This course will extend the learning of the 3000level course that examines biological oceanography, which focuses on the environmental factors that control primary production and lower trophic levels in the world's oceans. Prerequisite: A minimum grade of "C" in both GEOG 3920 and a 2000 level BIOL course or permission of instructor.	Sustainability Related
GEOG 7200 Environment, Resources, and Population	Environment, Earth and Resources	Environment and Geography	G	This course discusses the contemporary imbalance between population and resources. The consequences of resource exploitation upon the natural environment are also examined.	Sustainability Related
GEOG 7290 Energy Analysis	Environment, Earth and Resources	Environment and Geography	G	A survey of origins, methods and applications of energy analysis, a new technique of system energetics designed to provide information for a more efficient use of scarce natural resources.	Sustainability Related
GEOG 7380 Interdisciplinary Perspectives on Issues in the Environment	Environment, Earth and Resources	Environment and Geography	G	An intensive examination of research relating to various issues in the environment, this course will challenge students to consider crosscutting themes found in the literature and from their own learning experiences, and apply them to environmental problems.	Sustainability Related
GEOG 7380 Advanced Ecotoxicology: Understanding Stress Ecology	Environment, Earth and Resources	Environment and Geography	G	Ecotoxicology characterizes how organisms interact with anthropogenic and natural stressors in an ecological context. This course is an examination of the fundamental science, approaches and issues being addressed in the field. Students should have a four-year science based undergraduate degree and be registered in a graduate program. Prerequisite: Permission of instructor.	Sustainability Related
GEOG 7440 - Climate Change	Environment, Earth and Resources	Environment and Geography	G	The course will provide an overview of General Circulation Models (GCMs) and how these models are used to study various aspects of global climate change. More specifically the course will deal with the coupling between the atmosphere, hydrosphere, lithosphere and biosphere from the perspective of Earth System Science.	Sustainability Related
GEOG 7500 Biogeography	Environment, Earth and Resources	Environment and Geography	G	The course will emphasize principles and approaches to understanding biogeography on a worldwide scale with specific examples from Canadian and Manitoban research. Topics discussed include the physical environment and biological interactions, effects of disturbance and climate change, the geography of biological diversity, evolution and extinction.	Sustainability Related
GEOG 7580 Gender and the Human Environment	Environment, Earth and Resources	Environment and Geography	G	From critical social science theoretical positions, this course asks student to examine what we can learn about how humans live on the earth if we see them as gendered. Just as we may also understand humans and their interactions in and with spaces, places and environments through the lenses of race, ethnicity, class, age and/or combinations of these categories with gender. Cannot be held for credit with GEOG 4280. Prerequisite: permission of instructor.	Sustainability Related
GEOG 7780 Storms-Mesoscale	Environment, Earth and Resources	Environment and Geography	G	This course focuses on a range of storms, and mesoscale phenomena in the summer and winter. These include thunderstorms, tornadoes, squall lines, lightning, low level jets, gust fronts, blizzards, freezing rain, orographic storm, and polar lows. The emphasis is on the physical mechanisms leading to these events and it also examines how they may change in our warming climate. This course cannot be held for credit with GEOG 4780.	Sustainability Related
GEOG 7910 Contemporary Issues in Arctic Science	Environment, Earth and Resources	Environment and Geography	G	The course will deal with the coupling between the ocean sea ice atmosphere (OSA) interface and examine the role of these processes in physical biological coupling. Seminars will be presented on both scientific and methodological principles required to understand how climate change affects the Arctic system. Prerequisite: Permission of Department Head.	Sustainability Related
GEOG 7930 Oceanography: Chemical	Environment, Earth and Resources	Environment and Geography	G	This course deals with the sources, distribution, and transformation of chemical constituents of the oceans, and the processes that control them. The emphasis will be given to biologically or climatically significant elements such as carbon, nitrogen, phosphorus, iron and mercury in the Arctic Ocean. Prerequisite: Permission of the Department Head. Not to be held with GEOG 4930.	Sustainability Related
GEOG 7960 Oceanography: Biological II High Trophic Levels	Environment, Earth and Resources	Environment and Geography	G	This course will examine the oceanographic/biological coupling occurring in the Arctic region, focusing on environmental conditions related to higher trophic levels and impacts of climate change. The aim of this course will extend the learning of the 3000level course that examines the biological oceanography, which focus on the environmental factors that control primary production and lower trophic levels in the world's oceans. Prerequisite: Permission of Department Head. Not to be held with GEOG 4960.	Sustainability Related
GEOG 1340 The Dynamic Earth	Environment, Earth and Resources	Geological Sciences	UG	(Lab Required) (Formerly 007.134) An introduction to dynamics of the Earth's interior and surface that created the environment in which life evolved and that continue to change the world in which people now live. Taught with GEOL 2250. Not to be held with (GEOG 1440 or 007.144) or GEOL 2250 (007.225) or (007.123) or (007.124). Recommended for students intending to proceed in further courses in the Geological Sciences.	Sustainability Related
GEOG 1410 Natural Disasters and Global Change	Environment, Earth and Resources	Geological Sciences	UG	Discover how and when natural disasters occur, and how to identify and recognize them. Explore the Earth processes that lead to natural disasters and global change. Not to be held with (GEOG 1360 or 007.136).	Sustainability Related
GEOG 2250 Geology for Engineers	Environment, Earth and Resources	Geological Sciences	UG	(Lab Required) (Formerly 007.225) Principles of physical geology; materials in processes in geology; classification of igneous, metamorphic, and sedimentary rocks; elementary geological and geophysical surveying techniques; geological hazards, volcanism, earthquakes, landslides; processes of weathering, transportation and geomorphology. For Engineering students only. Not to be held with GEOG 1340 (007.134), or (GEOG 1440 or 007.144), or (007.123), or (007.124).	Sustainability Related
GEOG 2390 Environmental Geology	Environment, Earth and Resources	Geological Sciences	UG	(Formerly 007.239) Examination of geological processes and material as they interact with human activities, environmental planning, and management. Also available by correspondence. Prerequisite: university geology or GEOG 1290 or GEOG 1291 (053.129) (C), or (GEOG 1200) or GEOG 1201 (053.120) (C), or permission of department head.	Sustainability Related

GEOL 2570 Energy and Mineral Resources	Environment, Earth and Resources	Geological Sciences	UG	(Formerly 007.257) An introduction to the geological factors and processes responsible for the origin, concentration and distribution of fuels, geothermal resources, metallic and nonmetallic minerals. Available by correspondence only. Not for credit in a Major or Honours program in Geological Sciences. Prerequisite: An university-level Geology course, or permission of department head.	Sustainability Related
GEOL 3420 Engineering Geology	Environment, Earth and Resources	Geological Sciences	UG	(Formerly 007.342) Engineering properties of rocks, laboratory testing and site investigations in engineering geology. Rocks as construction materials, engineering geology of tunnels, bridges, dams, reservoirs, shorelines, sanitary landfills, landslides, seismic risk areas, etc. Prerequisites: (GEOL 2440 (007.244) (C)), and (GEOL 2520 (007.252) (C)), and (GEOL 2530 (007.253) (C)).	Sustainability Related
GEOL 3450 Hydrogeology	Environment, Earth and Resources	Geological Sciences	UG	(Lab required) The hydrologic cycle and basic hydrologic processes; properties of aquifers and principles of groundwater flow; well hydraulics and groundwater resource evaluation; regional groundwater flow and subsurface geology; and basic chemical hydrogeology. Not to be held with CIVL 4250. Prerequisites: (MATH 1500 or MATH 1510 (C)), and (PHYS 1020 or PHYS 1050 (C)), and CHEM 1300 (C), and (GEOL 2060 or GEOG 2310 (C)), and GEOL 2530 (C).	Sustainability Related
GEOL 4310 Paleontologic Principles	Environment, Earth and Resources	Geological Sciences	UG	(Lab Required) (Formerly 007.431) Interpretation of Earth history using fossils: topics in taxonomy, functional morphology, paleoecology, evolution, biostatigraphy, and biogeography. Prerequisite: GEOL 3310 (007.331) (C), or permission of department head.	Sustainability Related
GEOL 4360 Mineral Exploration Techniques	Environment, Earth and Resources	Geological Sciences	UG	(Lab Required) The course will examine methodologies used in exploration and evaluation of Canadian mineral deposits and case studies illustrating the application of these methods. Prerequisite: GEOL 3910 (C), or GEOL 3810 (C). Recommended pre or co-requisite: GEOL 4300.	Sustainability Related
GEOL 4370 Global Change	Environment, Earth and Resources	Geological Sciences	UG	(Formerly 007.437) Examination of the major processes controlling global change through time. The causes, magnitude, and periodicity of changes in the geological record resulting from the variability and interaction of continents, oceans, atmospheres, climate, Earthsun relationships, and ice sheets, with an emphasis on paleoclimate. Prerequisite: GEOL 3900 (007.390) (C). Prerequisite or Concurrent Requirement: GEOL 3490 (007.349).	Sustainability Related
GEOL 4380 Mineral Resource Development	Environment, Earth and Resources	Geological Sciences	UG	Examination of economic, political, social, and environmental considerations that affect exploration and mining activity. Prerequisite: GEOL 3130 (C+) and prior corequisite: GEOL 4300.	Sustainability Related
GEOL 4520 Petroleum Geology	Environment, Earth and Resources	Geological Sciences	UG	(Lab Required) (Formerly 007.452) A study of the physical properties, origins and maturation, migration, and accumulation of petroleum products. Prerequisite: GEOL 3900 (007.390) (C).	Sustainability Related
GEOL 7440 Principles of Paleoclimatic Reconstruction	Environment, Earth and Resources	Geological Sciences	G	An interdisciplinary course which examines the sedimentological, biological, and human response to climatic change; the history of Quaternary climate and its stratigraphic correlation. Prerequisite: Permission of instructor.	Sustainability Related
GEOL 7820 Environmental Geophysics	Environment, Earth and Resources	Geological Sciences	G	Examination of the application of geophysics to environmental targets. Topics will vary according to student interest and may include aspects of near-surface geophysics, engineering geophysics, geophysics of global climate change and geophysical risk assessment.	Sustainability Related
GMGT 1010 Business and Society	Management, I. H. Asper School of Business	Business Administration	UG	The course will provide overarching frameworks to examine the nature, role, and importance of business in society. Key internal operations of business organizations will be discussed (e.g. finance, marketing, operations), but the majority of the course examines the relationships that business firms must balance among key stakeholders in their external environment (i.e. government, owners, customers, communities, suppliers, future generations, etc.). Students will examine various institutional contexts (e.g. economic, political/legal, and sociocultural) and critically think about relationships between business and society, mindfully considering alternative approaches to management. Special emphasis will be placed on contemporary social issues in business (e.g. sustainable development, corporate social responsibility).	Sustainability Focused
GMGT 2010 Business Communications	Management, I. H. Asper School of Business	Business Administration	UG	The course provides an introduction to theoretical, cultural, and ethical bases of effective communication. Another goal is to develop students' interpersonal, oral, and written communication skills at individual, group, and organizational levels. The students will also develop analytical, problem-solving, rhetorical, and critical thinking abilities required in organizational and business settings. Students are strongly recommended to take GMGT 2010 in their first 45 credit hours. Not to be held for credit with the former GMGT 2000.	Sustainability Related
GMGT 2011 Business Communications and Critical Thinking	Management, I. H. Asper School of Business	Business Administration	UG	(Lab required) An introduction to theoretical, cultural and ethical bases of effective communication. Students will develop interpersonal, oral and written communication skills at individual, group and organizational levels and will also develop analytical, problem-solving, rhetorical and critical thinking abilities required in organizational and business settings. Recommend that GMGT 2011 be taken in their first 30 credit hours. Not to be held for credit with GMGT 2010 or GMGT 2001 or GMGT 2000.	Sustainability Related
GMGT 3030 Contemporary Social Issues in Business	Management, I. H. Asper School of Business	Business Administration	UG	Study of key issues in the relationship of business organizations and society with emphasis on the impact of management. Prerequisites: (GMGT 2060 or former GMGT 2080 (or 027.208) (D)) and GMGT 2070 (or 027.207) (D).	Sustainability Related
GMGT 3160 Managerial Economics	Management, I. H. Asper School of Business	Business Administration	UG	(Formerly 027.316) An introduction to the economic foundation of managerial decision making, which includes pricing strategies, boundaries of the firm, investment in human capital and design. Also offered as ECON 3160 Managerial Economics to the Department of Economics in the Faculty of Arts. May not be held with ECON 3160. Prerequisite: [a grade of "C" or better in both ECON 1010 (or ECON 1011) and ECON 1020 (or ECON 1021), or the former ECON 1200 (018.120), or the former ECON 1201 (018.120)] and [a grade of "C" or better in MATH 1500 (or MATH 1501 or the former 136.150) or MATH 1510 (136.151) or MATH 1520 (136.152) or ECON 2530 (018.253), MATH 1520 or ECON 2530].	Sustainability Related
GMGT 3581 Éthique et responsabilité sociale	Management, I. H. Asper School of Business	Business Administration	UG	(Ancien 027.358) Le rôle social de l'entreprise. L'environnement interne et externe de l'entreprise; les problèmes sociaux et les activités de responsabilité sociale; l'éthique professionnelle du gestionnaire contemporain, la comptabilité sociale; les groupes défavorisés; etc. On ne peut se faire créditer GMGT 3581 (027.358). Préalable: GMGT 2071 ou GMGT 2070 ou (027.207) et GMGT 1011 ou GMGT 1010.	Sustainability Related
GMGT 4151 Gestion des organisations sans but lucratif	Management, I. H. Asper School of Business	Business Administration	UG	(Ancien 027.415) Description et analyse de la dynamique des organismes sans but lucratif (OSBL) : leur environnement spécifique, leur fonctionnement interne et leurs modes d'intervention dans la communauté. Approfondissement de la compréhension de la spécificité du secteur tertiaire, ce qui rend apte à y intervenir efficacement soit en tant que gestionnaires, soit en tant que bénévoles. Préalables : GMGT 2061 ou GMGT 2060, GMGT 2081 ou GMGT 2080 (027.208), GMGT 2071 ou GMGT 2070 (027.207), HRR 2440 ou HRR 2441 (027.244). On ne peut pas obtenir de crédits à la fois pour GMGT 4151 et pour GMGT 4152.	Sustainability Related
GMGT 7060 Readings in Business Administration	Management, I. H. Asper School of Business	Business Administration	G	(Formerly 027.706) Supervised readings in one of the areas of business administration including human resource management, industrial relations, organizational behaviour, policy and environment.	Sustainability Related
GMGT 7110 Business and Its Environment	Management, I. H. Asper School of Business	Business Administration	G	(Formerly 027.711) Analysis of the environmental factors within which a business operates.	Sustainability Related
GMGT 7210 Strategy	Management, I. H. Asper School of Business	Business Administration	G	Students will integrate and apply concepts from various functional areas in analyzing organizational resources and capabilities, and environmental opportunities and threats. Students will study evolving strategic management problems and practices, and examine issues of formulation and implementation. Prerequisites: ACC 7010 (or ACC 6050), FIN 7020 (or FIN 6072), GMGT 7200, GMGT 7220 (or one of HRR 7450 and GMGT 6030), MKT 7010 (or MKT 6080), and OPM 7120 (or OPM 6090). Pre or Co-requisites: FIN 7000 (FIN 7120 or IDM 7720), ACC 7020 (or ACC 6060), MIS 7120 (or MIS 6150), IDM 7120 (or IDM 7060), IDM 7130, and IDM 7510.	Sustainability Related
GPE 1700 Social Justice in the 21st Century: Global Political Economy and Environmental Change	Arts	Global Political Economy	UG	Introduces students to political economy and cultural geography through the close analysis of contemporary world events, including but not limited to instances of violent conflict, environmental change, international negotiations, political processes and events, social movements, and policy developments. A multimedia approach will advance students' understanding of geopolitical events from political economy and spatial perspectives. Specific content of the course will change yearbyyear in response to developments in national and world politics. Also offered by Clayton H. Riddell Faculty of Environment, Earth, and Resources as GEOG 1700. Students may not hold credit for both GPE 1700 and GEOG 1700.	Sustainability Related
GPE 2700 Perspectives on Global Political Economy	Arts	Global Political Economy	UG	(Formerly 157.270) An interdisciplinary seminar exploring issues in political economy at the global level from the perspectives of Anthropology, History, Economics, Political Studies, and Sociology. Prerequisite: written consent of Global Political Economy coordinator.	Sustainability Related
GPE 3700 A Survey of Global Political Economy	Arts	Global Political Economy	UG	Provides students with a systemic intellectual history of the field of Global Political Economy. The course delineates Global Political Economy as a distinctive scholarly tradition, discusses the separation of economics and politics, and surveys the tradition from classical political economy through historical materialism, development economics, imperialism, world systems theory, and more. Students will relate these approaches to contemporary issues in GPE such as economic and ecological crises, inequality, or corporate power. Prerequisite: [a grade of "C" or better in GPE 1700 or GEOG 1700] or written consent of instructor.	Sustainability Related
GPE 4700 Studies in Global Political Economy	Arts	Global Political Economy	UG	(Formerly 157.470) An advanced interdisciplinary seminar that will study the effects of institutions, structures, and dynamics operating in the current global political economy. Students, working in groups, will be expected to do case studies on selected local (or regional) political economies. Prerequisite: written consent of Global Political Economy coordinator.	Sustainability Related
HEAL 1600 Health and Health Professions	Health Sciences	Interdisciplinary Health	UG	(Formerly BIOL 1110) Students discuss the Interrelationship between health, health determinants, and the impact that sciences, healthscience, behavioural/social sciences, and technology, have on health care and the health professions. Participants will consider their own role as health care consumers. Not to be held with BIOL 1110.	Sustainability Related
HEAL 3610 Mechanisms of Disease 1	Health Sciences	Interdisciplinary Health	UG	This course will provide an overview of cellular processes and immunology, followed by an introduction to common processes underlying the development of human disease. The focus will be on cellular injury and death (including metabolism and aging), neoplasia, inflammation, toxins and trauma, genetic diseases and susceptibility, and immune dysregulation. The focus will be on both local and systemic disease processes, and the progression of cells and tissues from a healthy to a pathological state. For IHP students only. Prerequisites: BIOL 2520 (C) and CHEM 2360 (C).	Sustainability Related
HEAL 4500 Injury Prevention Across the Life Course	Health Sciences	Interdisciplinary Health	UG	This course provides an interdisciplinary life course perspective on theories and methods of injury prevention. Current research, practices and policies in injury prevention across a wide variety of contexts, including but not limited to homes, communities, sport and the workplace, will be critically reviewed with regard to issues of gender, culture, age, functional ability, socioeconomic status, sexual orientation, and other determinants of health. Prerequisites: HEAL 2600 or FMYL 1000 or SOC 1200 or PSYC 1200.	Sustainability Related
HEAL 4600 Integration of Health Determinants for Canada and the World	Health Sciences	Interdisciplinary Health	UG	Students use selected case or learning scenarios to study the determinants of population health that depend on decision making in governmental or international agencies. The case scenarios present a variety of issues in the governance and management of population health. Prerequisites: HEAL 3600 and 57 credit hours in the Curriculum for Interdisciplinary Health or consent of instructor.	Sustainability Related
HEAL 4630 Mechanisms of Disease 2	Health Sciences	Interdisciplinary Health	UG	This course will expand upon the concepts learned in HEAL 3610 by exploring systemic diseases. The focus will be on understanding how some disease processes are not confined by individual tissues and/or organs and may progress to affect the patient systemically. Specific diseases such as cancer, diabetes, multiple sclerosis, and HIV will be used as examples. For Bachelor of Health Sciences students only. Prerequisite: HEAL 3610 (B).	Sustainability Related
HEAL 4640 Mechanisms of Disease 3	Health Sciences	Interdisciplinary Health	UG	(Lab required) Students will learn experimental techniques commonly used in modern biomedical science through lectures and laboratory sessions. Students will have the opportunity to conduct hands-on experiments in a modern research setting by rotating through five laboratory modules that will explore biomedical science methods such as histology and microscopy, cell culture, molecular biology, systems biology and proteomics, and HLA genotyping. These modules will be based on the diseases discussed in HEAL 4630, and will allow students to establish a direct connection between their experimental work and disease mechanisms. For students in the Bachelor of Health Sciences program only. Prerequisites: HEAL 4630 (B) and HEAL 3610 (B) and instructor permission required.	Sustainability Related
HIST 2286 Modern Canada (C)	Arts	History	UG	This course addresses the history of Canada since the First World War with attention to social, political, economic, diplomatic and cultural topics such as: interwar and postwar life, struggles for equality, international relations, immigration, new technologies, nationalism, aboriginal affairs, the arts and Canada's role in the world. Students may not hold credit for HIST 2286 and any of: HIST 2971 (011.297) or HIST 3050 (011.305) or the former HIST 2970 (011.297).	Sustainability Related
HIST 2380 The Twentieth-Century World (G,M)	Arts	History	UG	(Formerly 011.238) The problems of the modern world, including the global impact of Western civilization, the clash of ideologies, war and peace, and modernization. Students may not hold credit for both HIST 2380 (011.238) and HIST 2381 (011.238).	Sustainability Related
HIST 2400 History of Human Rights and Social Justice in the Modern World (G,M)	Arts	History	UG	Introductory course examining the emergence of the modern human rights era and social justice movements globally. Possible topics of study: human rights as global norm; non-Western conceptions of rights; workplace rights; indigenous rights; women's and gender rights.	Sustainability Related
HIST 3212 Global Sweatshops, Global Struggles (M)	Arts	History	UG	This course explores the past and present of sweatshop work in various industries in the Global North and South. We explore circumstances that support sweatshops, including offshoring and the new international division of labour, migrant, child and female labour forces; global supply chains and the role of retailers and contractors. We also compare and evaluate strategies to eliminate sweatshops, include NGO activities, government regulations, consumer boycotts and the international labour, student and social justice movements. Also offered as Labour Studies LABR 3220. Students may not hold credit for both HIST 3212 and LABR 3220. Prerequisite: [a grade of "C" or better in six credit hours of History or written consent of the department head] or [a grade of "C" or better in three credit hours of 1000 level Labour Studies or written consent of the Labour Studies coordinator].	Sustainability Related
HIST 3260 Commerce, Rights and Empire in European Thought, 500 - 2000 (M)	Arts	History	UG	This course will scrutinize the intersection of commerce and governance in Europe from c.500 to the present, paying particular attention to the way that debates about commerce, war and peace have generated notions of human rights over the past three centuries. We will explore whether and how debates about the proper way to govern trade played important roles not only in the creation of the modern categories of the "state" and the "economy," but also in understandings of the person as a rational actor of politics with substantial rights. Prerequisite: [a grade of "C" or better in six credit hours of history] or written consent of department head.	Sustainability Related
HIST 3572 The History of Women, Gender, and Sexuality in Canada (C)	Arts	History	UG	This course examines the history of women, gender, and sexuality in Canada's past and how gender and sexuality have structured the histories of Indigenous people, English and French colonization, nationbuilding, immigration and urbanization, politics, war, and protest. Students may not hold credit for both HIST 3572 and the former HIST 3570 (011.357). Prerequisite: [a grade of "C" or better in six credit hours of history] or written consent of department head.	Sustainability Related
HIST 3574 Disease and Society in the Modern World (G,M)	Arts	History	UG	This course will emphasize the relationship between disease and imperialism, capitalist development, and war; and examine social and state responses. The course will explore connections between the biological and the cultural aspects of infectious disease experiences. Students may not hold credit for both HIST 3574 and HIST 3110 (011.311) with the topics "History of Disease" and/or "History of Health and Disease." Prerequisite: [a grade of "C" or better in six credit hours of history] or written consent of department head.	Sustainability Related

HIST 3700 History of Working People and Labour Movements 1700 to the Present (G)	Arts	History	UG	(Formerly 011.370) A survey of working class history with emphasis upon the varieties of labour movements and trade unions. The course will refer to the social and political experience of working people in Great Britain, Europe and the United States and will devote one term to Canadian topics. Also offered as Labour Studies LABR 3700. May not be held with LABR 3700 (153.370). Prerequisite: [a grade of "C" or better in six credit hours of history or labour studies] or written consent of department head.	Sustainability Related
HIST 7630 History of Health and Disease	Arts	History	G	An introduction to principal issues and approaches in the history of health and disease. It is not meant to be a strictly chronological survey. Topics and themes may include the development of nursing and medical professions; the transformation of the hospital; mental health; alternative therapies; colonization, infectious disease and aboriginal health; and health and the state.	Sustainability Related
HIST 7640 Social History of Health and Disease in Modern Canada	Arts	History	G	This course explores the history of health and health care in Canada, with a focus on the late 19th and 20th century. Topics will include colonization, infectious disease, and Aboriginal health; the evolution of medical and nursing professions and the modern hospital; mental health; cancer; alternative therapies; childbirth; and old age. Analytical categories of gender, race, ethnicity, class, and sexuality will run throughout the material.	Sustainability Related
HIST 7750 Gender History in Canada	Arts	History	G	(Formerly 011.775) Explores the roles, images and experiences of masculinity and femininity in the past. Will familiarize students with the changing theoretical and historiographical terrain of gender history. It will draw on the international literature but focus on the history of gender in Canada, examining how historians analyse masculinity, femininity, the family, sexuality, politics, race/ethnicity, moral regulation, class, nation, and colonialism.	Sustainability Related
HIST 7760 History of Aboriginal Rights	Arts	History	G	(Formerly 011.776) A study of Aboriginal rights from early contact to the present with a particular emphasis on treaties, the courts, and Aboriginal efforts to enforce specific forms of rights.	Sustainability Related
HMEC 2050 Introduction to Research in Human Ecology	Health Sciences	Interdisciplinary Health	UG	(Formerly 028.205) A general introduction to research issues in natural and social sciences and their application in the various subject areas in human ecology. Prerequisites: [HMEC 2030 (028.203W) or 028.103W] and STAT 1000 (005.100)M.	Sustainability Related
HMEC 2650 The Social Aspects of Aging	Health Sciences	Interdisciplinary Health	UG	(Formerly 028.265) An examination of the social aspects of aging. Emphasis on understanding the aging process as a life transition involving adaptation through interaction with social and physical environments. Students may not hold credit for HMEC 2650 (028.265) or SWRK 2650 (047.265) or REC 2650 (123.265).	Sustainability Related
HMEC 3000 Introduction to Social Epidemiology	Health Sciences	Interdisciplinary Health	UG	This course provides an overview of the basic concepts, principles and methods of social epidemiology and their applications for research and practice from a human ecology perspective. Applications to social determinants of health across the life course may include but are not limited to income and food security, early child development and others. Prerequisites: HMEC 2000 [or HMEC 2050] or any 2000level or higher research course and [HEAL 2600 or HMEC 2030].	Sustainability Related
HMEC 3500 Developmental Health	Health Sciences	Interdisciplinary Health	UG	This course examines how social inequalities affect population health across the lifespan. It is guided by the determinants health with a particular focus on socioeconomic variables. Local, provincial, national and international perspectives provide meaningful insight into the roles of equality and inequality. Prerequisite: Any 2000 level research methods course.	Sustainability Related
HNSC 1100 Nutrition for Healthy Living	Agricultural and Food Sciences	Human Nutritional Sciences	UG	An introduction to nutrition and practical approaches for healthy diet and disease prevention. Prerequisites: Enrollment in the Aboriginal Community Wellness Diploma program. Not to be held with HNSC 1210	Sustainability Related
HNSC 1200 Food: Facts and Fallacies	Agricultural and Food Sciences	Human Nutritional Sciences	UG	(Formerly 030.120) This course will present facts and fallacies about food from harvest to market forms. Emphasis will be placed on technological development, consumer concerns and factors affecting nutritional quality. Current issues related to food safety and nutritional trends will also be discussed. Not to be held with 030.121	Sustainability Related
HNSC 2160 Principles of Food Preparation and Preservation	Agricultural and Food Sciences	Human Nutritional Sciences	UG	(Lab Required)(Formerly 030.216) Food preparation, preservation, handling and storage; quality and safety implications; scientific basis for culinary practice; use and application of equipment. Prerequisite: HNSC 1200 (030.120) and [CHEM 1320 or CHEM 1310 (002.132 or 002.131)]. Not to be held with 030.211 or 030.324.	Sustainability Related
HNSC 2170 Nutrition for Health Professionals	Agricultural and Food Sciences	Human Nutritional Sciences	UG	An examination of the fundamentals of nutrition and the relationship between nutrition and health within the context of the health professions. The focus is on nutritional strategies used to promote health and in the treatment of common health conditions. May not be held with HYG 2370, or the former ORL 2150, ORL 2330, or the former PHRM 2420. This course is restricted to students registered in Nursing or Pharmacy.	Sustainability Related
HNSC 3300 Vitamins and Minerals in Human Health	Agricultural and Food Sciences	Human Nutritional Sciences	UG	(Formerly 030.330) The physiological importance of vitamins and minerals in the human body, including factors affecting dietary requirements, metabolism and roles in disease progression and prevention. Prerequisites: [CHEM 2780 or MBIO 2780 (002.278 or 060.278) or CHEM 2370 or MBIO 2370 (002.237 or 060.237)] and HNSC 2140 (030.214) and [BIOL 1412 or 2420 (ZODL 1330 or 2540, 022.133 or 022.254)]. Not to be held with the former 030.426.	Sustainability Related
HNSC 3310 Macronutrients and Human Health	Agricultural and Food Sciences	Human Nutritional Sciences	UG	(Formerly 030.331) Macronutrient functions and metabolic roles in human health, including the prevention and pathogenesis of various diseases. Prerequisites: [CHEM 2780 or MBIO 2780 (002.278 or 060.278) or CHEM 2370 or MBIO 2370 (002.237 or 060.237)] and [HNSC 2140 (030.214) and [BIOL 1412 or 2420 (ZODL 1330 or 2540, 022.133 or 022.254)]. Not to be held with former 030.325.	Sustainability Related
HNSC 3330 Ingredient Technology for Designed Foods	Agricultural and Food Sciences	Human Nutritional Sciences	UG	(Formerly 030.333) Chemical and functional properties of ingredients and their application in designed foods: low fat, low calorie, high fibre, high energy and innovative food products. Prerequisites: [CHEM 2780 or MBIO 2780 (002.278 or 060.278) or CHEM 2370 or MBIO 2370 (002.237 or 060.237)] and HNSC 2150 (030.215) or [CHEM 2220 (002.222) and FOOD 2500 (078.250)].	Sustainability Related
HNSC 3870 Food Geographies	Agricultural and Food Sciences	Human Nutritional Sciences	UG	This course provides a critical examination of the geographies of food at a variety of scales, from the body to the global. The course focuses on themes in three interconnected areas: 1) food production and the global food system from farm to plate including agrisystems and alternative food production and distribution models; 2) food consumption habits and beliefs and foodways as geographically contingent material culture; and 3) food (in) security and its relationship to health and wellbeing. This course is crosslisted with GEOG 3870. Prerequisites: A grade of "C" or better in GEOG 1280, GEOG 1281, GEOG 1200 or HNSC 2300, or permission of the department head.	Sustainability Related
HNSC 4290 Food, Nutrition and Health Policies	Agricultural and Food Sciences	Human Nutritional Sciences	UG	(Formerly 030.429) Principles and applications of policies, regulations and legislation in the areas of food and health that address nutrition and health problems of populations. Not to be held with the former 030.328. Prerequisites: HMEC 2000 (or 2050 or 028.205) and HNSC 2130 or 2140 (030.213 or 030.214) and HNSC 2150 (030.215) and STAT 2000 (005.200).	Sustainability Related
HNSC 4310 Nutrition and the Elderly	Agricultural and Food Sciences	Human Nutritional Sciences	UG	(Formerly 030.431) The role of nutrition in health promotion and disease prevention during aging. Prerequisites: HNSC 3310 (030.331) and HNSC 3320 (030.332). Prerequisite or corequisite: HNSC 3300 (030.330). Offered in alternate years, opposite HNSC 4340.	Sustainability Related
HNSC 4320 Nutrition Management of Disease States	Agricultural and Food Sciences	Human Nutritional Sciences	UG	(Lab Required)(Formerly 030.432) Nutritional assessment and dietary management of acute and chronic disease states. Prerequisite or corequisite: HNSC 3300 (030.330) and HNSC 3310 (030.331) and HNSC 3320 (030.332). Not to be held with 030.423 or 030.424.	Sustainability Related
HNSC 7110 Advanced Problems in Nutrition	Agricultural and Food Sciences	Human Nutritional Sciences	G	A review of the major concepts and design of compensation systems such as: strategy, external competitiveness, rewarding individual contributions, performance incentives, employee benefits, government regulations, union role in compensation, budgets and administration. Prerequisite: GMGT 7220.	Sustainability Related
HORT 0100 Applied Botany	Extended Education	Horticulture	UG	This course will provide students with a broad overview of horticulturally important plants. The role plants play in human life, both past and present, will be discussed. Students will be introduced to topics such as plant classification, plant nutrition, propagation, pests/pesticides and plant protection.	Sustainability Related
HORT 0110 Soils for Horticulture	Extended Education	Horticulture	UG	This course will introduce the basic concepts of soil science with emphasis on the specific concerns and requirements of the diverse specialties of horticulture. It will examine the basic requirements for plant growth in both field and potting environments. The course will focus on methods of improving soil fertility and soil structure for plant growth.	Sustainability Related
HORT 0120 Safe Work/Pesticide Application	Extended Education	Horticulture	UG	Students will learn safe and effective control of pests in greenhouses, nurseries, horticulture field crop and landscaped area. Nonmandated pesticide applicators in the prairie provinces will learn about safety procedures in using pesticides.	Sustainability Related
HORT 0230 Integrated Plant Management	Extended Education	Horticulture	UG	This course will introduce you to the basics of identifying, monitoring, predicting, timing and managing the horticultural, environmental and pest factors affecting plants. Upon completion of this course you should be able to describe what Integrated Plant Management means and be able to apply the principles learned to your situation. You should be able to manipulate the growing conditions of your plants in order to prevent or correct problems that you have learned to identify in this course. Not only should you be able to identify and correct or prevent individual problems, but you should also be able to predict how your manipulation of the growing conditions will impact other factors.	Sustainability Related
HORT 0240 Postharvest Handling of Food Crops	Extended Education	Horticulture	UG	The principles of postharvest handling, storage, and transportation of fruits, vegetables and herbs are covered in this course. You will learn handling and storage practices to maintain the quality of fresh fruits and vegetables of importance in the Canadian Prairies; what constitutes high quality produce; when a crop should be harvested for optimum quality; specific storage environments required by various crops; and causes of quality loss during storage and transportation. Storage and handling of fresh herbs will also be discussed. Before enrolling in this course, it is recommended that you be familiar with the types and botanical structures of various fruit and vegetable products.	Sustainability Related
HORT 0260 Arboriculture	Extended Education	Horticulture	UG	The goals of the course are to: learn basic terminology used in arboriculture, understand the principles of care and maintenance of trees and shrubs in the landscape, learn procedures involved in the installation, establishment and maintenance of trees and shrubs and understand basic concepts of the effects of the urban environment on the growth and development of woody plants.	Sustainability Related
HORT 0280 Nursery Crop Production	Extended Education	Horticulture	UG	This course covers the principles and practices of the production of trees, shrubs and perennials in field and container situations in a commercial business environment. The historical evolution of the industry in prairie Canada as it relates to current crop management practices is discussed.	Sustainability Related
HORT 0320 Greenhouse Crop Production	Extended Education	Horticulture	UG	This course covers several aspects of greenhouse production including an overview of the prairie greenhouse industry, production economics, chemical and biological pest control and the production of bedding plants, potted and flowering plants and vegetables.	Sustainability Related
HORT 0322 Greenhouse Structures and Environments	Extended Education	Horticulture	UG	This course provides the student with the basic skills to learn fundamental greenhouse construction and maintenance. It provides information on specialized features of greenhouse structures and environmental controls.	Sustainability Related
HORT 0342 Vegetable Crop Production	Extended Education	Horticulture	UG	Vegetable crop production in the Canadian prairies will be studied from the point of view of soils, climate, equipment, management and marketing. Topics include establishing a vegetable enterprise, managing an existing operation and advising others on vegetable production.	Sustainability Related
HRIR 2440 Human Resource Management	Management, I. H. Asper School of Business	Business Administration	UG	(Formerly 027.244) Introduction to principles and procedures in the management of human resources. Topics include diversity management, conflict resolution, employment, law, planning, job analysis, performance appraisal, staffing, compensation, union/management relations, and current issues.	Sustainability Related
HRIR 4420 Compensation	Management, I. H. Asper School of Business	Business Administration	UG	(Formerly 027.442) A review of the major concepts and design of compensation systems including: strategy, internal equity, external competitiveness, rewarding individual contributions, performance incentives, employee benefits, government regulations, union role in compensation; budgets and administration. Prerequisite: HRIR 2440 (or 027.244) (D).	Sustainability Related
HRIR 4511 Gestion de la diversité	Management, I. H. Asper School of Business	Business Administration	UG	(L'ancien 027.451) La gestion de la diversité du point de vue historique, social, légal et opérationnel. L'influence de la diversité de la main d'oeuvre sur les politiques, les pratiques et les procédures de l'organisation. Modèle du développement organisationnel pluraliste relié à un ensemble de systèmes sociaux. Donné au Collège de St. Boniface. Préalable: HRIR 2440 (ou 027.244) (D).	Sustainability Related
HRIR 4531 Gestion du changement	Management, I. H. Asper School of Business	Business Administration	UG	(L'ancien 027.453) Changement et développement organisationnel: processus de changement, agent de changement, domaines d'intervention: changements dans l'environnement et l'organisation, processus sociaux, culture d'entreprise, technostructure, qualité de vie au travail. Dilemmes et perspectives. Donné au Collège de St. Boniface. Préalable: HRIR 2440 (ou 027.244) (D).	Sustainability Related
HRIR 7166 Compensation	Management, I. H. Asper School of Business	Business Administration	G	(Formerly 030.711) Studies of selected problems and programs in community nutrition emphasizing program planning and evaluation.	Sustainability Related
HRIR 7168 The Management of Labour and Employee Relations	Management, I. H. Asper School of Business	Business Administration	G	An examination of the systems of labour and employee relations in Canada as it compares with the systems of other countries. Emphasis upon understanding and managing labour and employee relations in a changing economy. Not to be held with HRIR 7500 (or 027.750). Prerequisite: GMGT 7220.	Sustainability Related
HRM 0100 Managing the Human Resource Function	Extended Education	Human Resource Management	UG	This course introduces the strategic management of the human resource functions within various types of organizations. While taking into account recent changes in the economic, social and legal environment, it examines the essential functions of recruitment, selection, performance management, training and development, health and safety, counselling, union/management relations and compensation.	Sustainability Related
HRM 0110 Human Resource Legislation	Extended Education	Human Resource Management	UG	Provincial and some federal legislation regulating human resource management will be discussed. The course covers matters arising out of the Labour Relations Act, the Human Rights Code, the Employment Standards Act and related legislation, the Canadian Constitution, the Worker's Compensation Act, the Pay Equity Act and other related labour and human resource legislation.	Sustainability Related
HRM 0124 Workplace Health and Safety	Extended Education	Human Resource Management	UG	For most organizations today, the health and safety of workers is paramount to a vibrant and effective workplace; thus, HR professionals must have a solid understanding of workplace health and safety issues, policies and legislation. This course provides students with the knowledge, skills, and practical application needed to develop and ensure compliance to modern health, safety and wellness policies and procedures. Topics include current legislation within Canada, workers compensation, hazards, risks and interventions, and wellness programs.	Sustainability Related
HRM 0126 Strategic Human Resource Planning	Extended Education	Human Resource Management	UG	Strategic human resource planning is pivotal to an organization as it links to HR management policies and procedures with the mission and overall strategic plan of the organization while recognizing and addressing the needs of employees. By providing a unified focus and communicating performance expectations to employees, strategic human resource planning enhances organizational performance. In the current innovative die business environment, maximizing performance helps business stay ahead of the competition. This course introduces students to strategic management, the strategic planning process, organization design and structure, current economic, societal and technological trends impacting HR and change management.	Sustainability Related
HRM 0130 Employee Communication and Coaching	Extended Education	Human Resource Management	UG	This course prepares students to inform employees on matters which impact employee wellbeing. The topic employee communication addresses communication theory, orientation and briefing meetings, appeal and grievance procedures, staff newsletters and career workshops. The topic of coaching focuses on the professional principles, frameworks and tools needed to develop an effective coaching strategy for an organization.	Sustainability Related



HRM 0134 Ethics and Social Responsibility	Extended Education	Human Resource Management	UG	In a world where tolerance is prioritized, business ethics and standards can be hard to define, navigate and apply to the HR context. This course helps students identify and understand current ethical issues as they pertain to business in general and the HR function in particular, including concept of corporate social responsibility. Students will explore the drafting and implementation of employee codes and conduct, which cover safeguarding employee confidentiality, accepting gifts, protection of 'whistleblowers' and conflicts of interest, as well as fair labour policies. Through the analysis of principles and theories of ethics as well as ethical dilemmas faced in the workplace, students will be better prepared to examine current decisionmaking processes and HR practices in the workplace.	Sustainability Related
HRM 0200 Employee Relations	Extended Education	Human Resource Management	UG	This course examines the employee relations framework within Canada including its legal, political, social, economic and ecological subsystems. Special attention will be given to the ways that managers can work effectively and fairly with employees and deal with difficult situations in both unionized and nonunionized environments.	Sustainability Related
HRM 0202 Labour Relations	Extended Education	Human Resource Management	UG	This course presents the theory and practice of labour relations in Canada; specifically, this course examines the employee relations framework within Canada including its legal, political, social, economic and ecological subsystems. Key topics include industrial relations, unionmanagement relations, collective bargaining and labour economics. Special attention will be given to the strategies that managers can utilize in order to work effectively and fairly with employees and deal with difficult situations in both unionized and nonunionized environments. Throughout the course, students will explore and gain a better understanding of how key players act and interact.	Sustainability Related
HRM 0210 Total Compensation	Extended Education	Human Resource Management	UG	This course is an introduction to compensation and benefits administration. Attention will be given to the means by which compensation equity is achieved in organizations. Topics covered include job analysis and design, job evaluation, development and use of wage and salary surveys and benefit policies and practices. The benefits part of the course will include a discussion of public and private benefit programs and pension plans. (Formerly 070.128) A study of different types of microorganisms. Infectious diseases will be discussed in terms of reservoirs, transmission, pathogenesis, treatment and prevention. Emphasis will be given to common communicable diseases, the oral microflora and its role in disease and health.	Sustainability Related
HYGN 1280 Microbiology and Infectious Diseases	Dental Hygiene	Dental Hygiene	UG	An introductory, participatory course in community oral health promotion intended to inspire a sense of community responsibility in students as health professionals responding to community needs through classroom learning, interviews and debates. Student abilities to deliver community oral health education programs with attention given to barriers and strategies used to meet the unique needs of target populations less likely to have optimal oral health are further developed. Prerequisite: HYGN 1352.	Sustainability Related
HYGN 1352 Community Health I	Dental Hygiene	Dental Hygiene	UG	This Web CT course is offered in conjunction with the University of British Columbia. Microbiological and immunological concepts that are the scientific basis for understanding human response in health and disease will be explored. This course builds on knowledge acquired from dental hygiene entrypractice level education and dental hygiene practice.	Sustainability Related
HYGN 2362 Community Health II	Dental Hygiene	Dental Hygiene	UG	This Web CT course is offered in conjunction with the University of British Columbia. Microbiological and immunological concepts that are the scientific basis for understanding human response in health and disease will be explored. This course builds on knowledge acquired from dental hygiene entrypractice level education and dental hygiene practice.	Sustainability Related
HYGN 4510 Microbiology and Immunology	Dental Hygiene	Dental Hygiene	UG	(Formerly 051.718) A theoretical exploration of contemporary design issues as they apply to Interior Design, supporting the work of design studio. Historical precedent in relation to human activity, sensory stimulus, technological and social change, ecological awareness, and aesthetic judgment forms the context for discussion and debate. Prerequisite: EVIE 3650 and EVIE 3660 or equivalent.	Sustainability Related
IDES 7180 Theory Seminar 1 Contemporary Issues in Design	Architecture	Interior Design	G	(Formerly 098.702) Strategic issues related to the manager's role in sustainable development, including enterprises in the renewable and non-renewable resource sectors, lifecycle analysis, and full cost accounting. Emphasis is placed on environmental management control systems, environmental performance measurement, reporting, and the impact of environmental management on strategic management decisions.	Sustainability Focused
IDM 7020 Managing for Sustainable Development	Management, I. H. Asper School of Business	Management Interdisciplinary	G	(Formerly 098.703) An experiential project examining issues related to economically and/or socially disadvantaged individuals and groups with emphasis on corporate social responsibility. This course is graded pass/fail.	Sustainability Related
IDM 7030 Social and Community Awareness Project	Management, I. H. Asper School of Business	Management Interdisciplinary	G	This course exposes students to salient themes found in the modern business environment. Students will develop a broad appreciation for the challenges and opportunities presented by these contemporary themes (e.g. International and Emerging Markets; Sustainability; Entrepreneurship and Innovation).	Sustainability Related
IDM 7130 Contemporary Themes in Business	Management, I. H. Asper School of Business	Management Interdisciplinary	G	This course will introduce normal and cancer stem cell concepts, with an emphasis on the hierarchical of tumours and the diverse roles of tissue microenvironment in sculpting tumour cell phenotypes. Also, targeting of putative cancer stem cells will be discussed in the context of developing novel treatment strategies. Prerequisite: Undergraduate course in cell biology or consent of instructor(s).	Sustainability Related
IMED 7098 Cancer Stem Cell Concepts and Therapeutic Applications	Medicine	Interdisciplinary Medicine	G	This course will examine the latest genetic evidence on the origins and evolution of anatomically modern humans and their peopling of the world, the coevolution of genes and culture, and the emergence and dispersal of genetic risk factors for Mendelian and complex diseases and traits that affect contemporary human populations. Prerequisite: Incoming students must have passed the Foundations in Human Population and Evolutionary Genetics (IMED 7130) or an equivalent course prior to taking this course.	Sustainability Related
IMED 7140 Advanced Topics in Human Population and Evolutionary Genetics	Medicine	Interdisciplinary Medicine	G	(Formerly 165.719) This interdisciplinary course deals with the molecular and cellular mechanisms underlying immunologically mediated human diseases. Prerequisites: IMMU 7070 (or 072.707) plus cognate courses in human biology or by consent of instructors.	Sustainability Related
IMED 7190 Medical Immunology	Medicine	Interdisciplinary Medicine	G	(Formerly 165.720) One hour per week on the basic (cellular and molecular) and clinical (diagnostic and treatment) aspects of cancer. Students will give one seminar and submit an essay on an assigned topic. Prerequisite: consent of instructor.	Sustainability Related
IMED 7200 Cancer Biology	Medicine	Interdisciplinary Medicine	G	Emphasis on current understanding about the dynamic mechanisms that instruct when and where genomic DNA is turned on or off. We will discuss the epigenetic mechanisms that control differentiation of specialized cell types during development. Additionally, this course will highlight recent advancements on the impact of epigenetics in neurodevelopmental diseases with regards to the etiology, progression, diagnosis and treatment. In this respect, application of stem cell biology/regenerative medicine, genome-wide genetic/epigenetic strategies and gene therapy approaches will be discussed. Prerequisite: A basic course in biology, or consent of instructor.	Sustainability Related
IMED 7210 Epigenetics in development and human diseases	Medicine	Interdisciplinary Medicine	G	This course is designed to provide students with a basic knowledge on nucleic acids structure and function. It will highlight how DNA and RNA contribute to the mechanisms and underlying normal development as well as pathologies including cancer and genetic diseases. To be fully beneficial for the student, it is highly recommended that this course be taken together with IMED 7244.	Sustainability Related
IMED 7242 Nucleic Acids: Structure and Function in normal development and diseases	Medicine	Interdisciplinary Medicine	G	(Formerly 027.220) Analysis of the practice of management in an international setting. Examines the cultural, political, and economic environments which influence managerial decisionmaking in an international context.	Sustainability Related
INTB 2200 International Management	Management, I. H. Asper School of Business	Business Administration	UG	Mise en évidence de l'influence de facteurs culturels sur les pratiques de gestion et la vie des entreprises. Présentation des dimensions de la culture de chaque pays étudié (religion, valeurs, normes, histoire, etc.) et développement d'outils pour faciliter l'adaptation des employés étrangers dans ces pays et le développement d'une communication interculturelle efficace avec leurs ressortissants. On ne peut se faire créditer INTB 3001 et GMGT 3521 ou INTB 4501. Préalable: GMGT 2071 (ou l'ancien 027.207).	Sustainability Related
INTB 3001 Gestion interculturelle	Management, I. H. Asper School of Business	Business Administration	UG	(L'ancien 027.450) Un aperçu des principales cultures du monde. Etude des relations entre la culture d'un peuple et ses rapports économiques internationaux. Donnée au Collège de St. Boniface.	Sustainability Related
INTB 4501 Cultures du monde	Management, I. H. Asper School of Business	Business Administration	UG	(Formerly 027.703) Comparative study and evaluation of management philosophy and practices in cross cultural setting; the cultural, economic, and political environment which influence management decision making. Not taught every year.	Sustainability Related
INTB 7030 Comparative Management	Management, I. H. Asper School of Business	Business Administration	G	An introduction to health, wellbeing and aging. Emphasis on health as multidimensional including physical, social and mental health. Integration of theory and research in examining selected issues related to health and physical aspects of aging. This is an Option in Aging course and may not be held for credit with PHED 2610 (057.261) or NURS 2610 (049.261).	Sustainability Related
KIN 2610 Health and Physical Aspects of Aging	Kinesiology and Recreation Management	Kinesiology	UG	The study of the aging processes and the effects of exercise and lifestyle factors on the health and fitness of the aging adult. May not be held for credit with PHED 4500 (057.450). Prerequisite: KIN 3512 (KIN 3090, PHED 3512, PHED 3090 or 057.309) (C) or permission of the instructor.	Sustainability Related
KIN 4500 Physical Activity and Aging	Kinesiology and Recreation Management	Kinesiology	UG	An introduction to the study of working lives in the contemporary world and the global transformation that has made working for wages central to human existence. Students may not hold credit for both LABR 2360 and the former LABR 1270 (153.127).	Sustainability Related
LABR 1260 Working for a Living	Arts	Labour Studies	UG	This course examines the social, economic and political contexts of work and the relations, rules and structures that shape the interactions between workers, employers and the state. Topics include workers' and management rights, the rights, obligations and functions of unions, the legal contexts of labour/management relations, and initiatives for increasing equity. Students may not hold credit for both LABR 2300 and the former LABR 3300. Prerequisite: [a grade of "C" or better in three credit hours of 1000 level Labour Studies] or written consent of the Labour Studies coordinator.	Sustainability Related
LABR 2300 Workers, Employers and the State	Arts	Labour Studies	UG	(Formerly 153.242) An examination of theoretical approaches to paid and unpaid work, the organization of labour processes, the production and reproduction of labour, and labour markets in Canada today, as well as possible alternatives. Students may not hold credit for LABR 2420 (153.242) and any of: LABR 2100 or the former ECON 2420 (018.242). Prerequisite: [a grade of "C" or better in both LABR 1260 (the former LABR 1270 or 153.127) and LABR 1290 (153.129)] or [a grade of "C" or better in six credit hours of 1000 level Economics].	Sustainability Related
LABR 2420 Economics of the Labour Process and Labour Relations	Arts	Labour Studies	UG	(Formerly 153.301) An introduction to legislation and interpretation, legal procedures, and quasi-judicial boards as they concern the organization of trade unions, collective bargaining, settlement of disputes, labour standards, workers' compensation, unemployment insurance and human rights. Prerequisite: [a grade of "C" or better in both LABR 1260 (the former LABR 1270 or 153.127) and LABR 1290 (153.129)] or [a grade of "C" or better in both HRIR 3450 (027.345) and 6 credit hours of other HRIR courses] or written consent of the Labour Studies coordinator.	Sustainability Related
LABR 3010 Labour Law	Arts	Labour Studies	UG	This course will explore historical, legal and political issues surrounding health and safety in Canadian workplaces with an emphasis on Manitoba. It will critically examine both the Workers' Compensation and the Workplace Health and Safety systems as they currently exist and review the role of workers, employers, unions and government in these processes. It will investigate various challenges and emerging issues in health and safety including but not limited to industrial disease, gender concerns, precarious employment and globalization. Prerequisite: [a grade of "C" or better in three credit hours of 1000 level Labour Studies] or [a grade of "C" or better in both HRIR 3450 (027.345) and an additional 6 credit hours of HRIR courses] or written consent of the Labour Studies coordinator.	Sustainability Related
LABR 3050 Issues in Occupational Health and Safety and Workers' Compensation	Arts	Labour Studies	UG	(Formerly 153.305) An introduction to occupational health and industrial safety emphasizing the impact of chemical hazards on the body, the measure and control of hazards and the causes and prevention of industrial accidents. Prerequisite: [a grade of "C" or better in both LABR 1260 (the former LABR 1270 or 153.127) and LABR 1290 (153.129)] or [a grade of "C" or better in both HRIR 3450 (027.345) and 6 credit hours of other HRIR courses] or written consent of the Labour Studies coordinator.	Sustainability Related
LABR 3060 Workplace Health and Safety	Arts	Labour Studies	UG	(Formerly 153.307) The economic costs of workplace injuries and sickness; the history of occupational health and safety laws and their implementation; the history and functions of workers' compensation; collective bargaining on health and safety. Prerequisite: [a grade of "C" or better in both LABR 1260 (the former LABR 1270 or 153.127) and LABR 1290 (153.129)] or [a grade of "C" or better in both HRIR 3450 (027.345) and 6 credit hours of other HRIR courses] or written consent of the Labour Studies coordinator.	Sustainability Related
LABR 3070 Labour Relations and Occupational Health and Safety Law	Arts	Labour Studies	UG	This course examines the theory and practice of collaborative community and labour organizing, with particular emphasis on Latin America, to identify the strengths and limitations of this approach for reviving unions, protecting workers' rights and advancing social justice. Prerequisite: [a grade of "C" or better in both HRIR 3450 (027.345) and 6 credit hours of other HRIR courses] or written consent of the Labour Studies coordinator.	Sustainability Related
LABR 3080 Labour and Community Organizing	Arts	Labour Studies	UG	An examination of the impact of global capitalism on the lives of workers (both paid and unpaid) in the Global South and North in the early 21st century. Using concepts of class, gender and "race", the course addresses key challenges facing working people, the crisis of workers' movements, and new movements emerging in response to this crisis. Prerequisite: written consent of instructor.	Sustainability Related
LABR 3090 Globalization and Labour	Arts	Labour Studies	UG	(Formerly 153.313) An examination of the legal rights and obligations of workers and employers, and the enforcement mechanisms for the nonunionized workplace, over the course of the employment relationship from hiring through to termination or retirement. Special emphasis will be placed on statutory and common law, personal employment contracts, wrongful and constructive dismissal, human rights legislation and jurisprudence. Prerequisite: [a grade of "C" or better in both LABR 1260 (the former LABR 1270 or 153.127) and LABR 1290 (153.129)] or [a grade of "C" or better in both HRIR 3450 (027.345) and 6 credit hours of other HRIR courses] or written consent of the Labour Studies coordinator.	Sustainability Related
LABR 3130 Employment Legislation and the Protection of Workers	Arts	Labour Studies	UG	This course explores the past and present of sweated work in various industries in the Global North and South. We explore circumstances that support sweatshops, including offshoring and the new international division of labour, migrant, child and female labour forces; global supply chains and the role of retailers and contractors. We also compare and evaluate strategies to eliminate sweatshops, including NGO activities, government regulations, consumer boycotts and the international labour, student and social justice movements. Also offered as HIST 3212. Students may not hold credit for both LABR 3220 and HIST 3212. Prerequisite: [a grade of "C" or better in three credit hours of 1000 level Labour Studies or written consent of the Labour Studies coordinator] or [a grade of "C" or better in six credit hours of History or written consent of the department head].	Sustainability Related
LABR 3220 Global Sweatshops, Global Struggles	Arts	Labour Studies	UG	This course is an introduction to the basic human rights protections in Canadian workplaces that have developed as a result of collective bargaining, human rights legislation, The Charter of Rights and Freedoms and decisions of courts and tribunals. The course will also examine the concept of human rights on a broader, international and national level. Students may not hold credit for both LABR 3230 and LABR 3110 when titled "Human Rights at Work." Prerequisite: [a grade of "C" or better in three credit hours of 1000 level Labour Studies] or written consent of the Labour Studies coordinator.	Sustainability Related
LABR 3230 Human Rights at Work	Arts	Labour Studies	UG	This course introduces students to concepts and structures pertaining to workers' advocacy and administrative law, including areas such as human rights, occupational health and safety, Workers' Compensation, and the duty of fair representation. Students may not hold credit for LABR 3240 and any of LABR 3110 or LABR 3120 when titled "Becoming an Advocate." Prerequisite: [a grade of "C" or better in three credit hours of 1000 level Labour Studies] or written consent of the Labour Studies coordinator.	Sustainability Related
LABR 3240 Becoming an Advocate	Arts	Labour Studies	UG		Sustainability Related

LABR 3400 Racism and Work	Arts	Labour Studies	UG	This course explores three central questions: What are racism and colonialism? How do racism and colonialism shape work in Canada? What strategies exist for combating racism at work, and which are most effective? Students may not hold credit for both LABR 3400 and LABR 3110 when titled "Racism at Work." Prerequisite: [a grade of "C" or better in three credit hours of 1000 level Labour Studies] or written consent of the Labour Studies coordinator.	Sustainability Related
LARC 7110 Landscape Architecture Studio 1	Architecture	Landscape Architecture	G	An introductory study of structure and order within nature and the built environment. Instruction in the principles of design, the basic elements of graphic and spatial composition, and the vocabulary and methods of approach to landscape architectural design within a variety of contexts.	Sustainability Related
LAW 3018 Human Rights Law	Law	Law	UG	Critical and constructive study, at an advanced level, of a significant major subject or set of topics in Human Rights Law.	Sustainability Related
LAW 3024 The Legal Profession and Professional Responsibility	Law	Law	UG	A general introduction to the problems of professional responsibility and the ethics of lawyers individually, as well as the legal profession collectively. Topics dealt with will include ethical problems of the lawyer in the role of the advocate and in the role of counsellor (confidentiality, conflict of interest, etc.); professional responsibility in the delivery of legal service (competency, fee determination, specialization, regulation etc) and the legal profession and the public interest (governance of profession, discipline, professional liability etc). These problems are to be studied by the critical examination of case law, codes, canons, and other published materials, by classroom discussion and debate on problems; and by workshops and panels which involve practising lawyers.	Sustainability Related
LAW 3070 Gender and the Law	Law	Law	UG	[Formerly 045.307] An exploration of ideas about gender differentiation in law, the legal system, legal education and the legal profession. It will offer an introduction to the feminist critique of law and feminist theories about sexual equality and discrimination.	Sustainability Related
LAW 3120 Philanthropy and the Law	Law	Law	UG	This course investigates the origins of, and regulation of, charities and charity law as well as regulation of other nonprofit entities. Typical topics considered in this course include the social, economic and cultural importance of an ethic of giving, the tax benefits attendant upon charitable status, dimensions of fundraising, public and private foundations and terrorism and international charities.	Sustainability Related
LAW 3130 Poverty Law	Law	Law	UG	Specific topics to be covered will include: income security, homelessness and housing, legal aid, panhandling, and antipoverty advocates' use of international and domestic law in lobbying and test case litigation. The protections afforded by human rights instruments and procedural safeguards/administrative law will also be explored as well as the intersection of poverty with race, gender, family status, age and disability. At the end of the seminar, students will have a basic understanding both of the substantive law and of the nature of legal practice involved in the topics discussed.	Sustainability Related
LAW 3170 Dispute Resolution	Law	Law	UG	This course offers a detailed exploration of the theory and practice of dispute resolution focusing on the various approaches, private and court-connected, currently used to resolve conflict. In critically examining selected alternative dispute resolution mechanisms, the course exposes students to issues such as rightsbased and interestbased dispute resolution, power, gender and culture in ADR processes and the functions, and skills required of, third party interveners. May not be held with the former LAW 3160 (045.316) or LAW 3162.	Sustainability Related
LAW 3212 Immigration Law	Law	Law	UG	The refugee definition, the need for refugee protection; procedural protection for refugee claimants; a comparative study of refugee determination systems; the legality of a refugee sanctuary movement; the legal status of refugee claimants in Canada; refugee and immigrant detention; the relevance of Charter guarantees to refugees and immigrants; visa requirements and airline fines; the international system of refugee protection; racist intention and effect in immigration and refugee law; material misrepresentation as a ground of exclusion; medical inadmissibility; equivalence of Canadian and foreign criminal offenses for purposes of exclusion; the relevance of foreign laws in determining family composition of sponsored immigrants. May not be held with LAW 3208.	Sustainability Related
LAW 3230 Aboriginal Peoples and Land Claims	Law	Law	UG	[Formerly 045.323] The course shall provide an overview of land claims and treaty land entitlement policies in Canada and their impact upon land claims by Aboriginal communities.	Sustainability Related
LAW 3310 Aboriginal Peoples and the Law	Law	Law	UG	[Formerly 045.331] A study of the laws relating to Aboriginal Peoples in North America from the colonial period to the present. Special emphasis will be given to aboriginal rights, hunting and fishing rights, the legal aspects of Indian Treaties and the Indian Act. A more general treatment will be given to a study of Aboriginal Peoples' relationship to civil and criminal law in modern Canadian society.	Sustainability Related
LAW 3330 Employment Law	Law	Law	UG	[Formerly 045.333] A detailed study of employment law including employment principles, constructive and wrongful dismissal, just cause, human rights and remedies.	Sustainability Related
LAW 3380 Issues in Law and Bio Ethics	Law	Law	UG	[Formerly 045.338] The course deals with the legal aspects of prevention, creation, alteration, maintenance and termination of life through medical and other scientific means.	Sustainability Related
LAW 3600 Environmental Law	Law	Law	UG	[Formerly 045.360] The balance between technical development and the life-support capacity of the environment. The acquisition and nature of private rights in natural resources and their control by legislation and common law. Remedies for environmental degradation. Constitutional and international legal issues.	Sustainability Related
LAW 3740 Public International Law	Law	Law	UG	Public international law has a complex history, one that lends itself to conflicting interpretations. It has also been the object of a variety of competing theoretical projects, most of which diverge radically on questions of form and substance. This course provides an historically and theoretically reinforced introduction to the basic rules, principles, and institutions of public international law.	Sustainability Related
LAW 3880 Municipal and Planning Law	Law	Law	UG	[Formerly 045.388] A general course in municipal law, including important aspects of landuse control and planning law. Although the course deals generally with the nature, structure, functions, and powers of the various units comprising the local level of government, the focus is primarily on municipal corporations. Topics covered include assessment and taxation, landuse planning and control, tort liability, judicial review of bylaws, qualification and accountability of councillors, and the law relating to expropriation, as well as some discussion of contemporary urban problems.	Sustainability Related
LAW 3940 Canadian Charter of Rights and Freedoms	Law	Law	UG	[Formerly 045.394] An in-depth study of the legal, philosophical and historical foundations of the Canadian Charter of Rights and Freedoms. Included is a study of both the American and European experience with Charters of Rights as well as Canadian case law.	Sustainability Related
LDRS 0500 United Way of Winnipeg Leadership Development	Extended Education	Leadership	UG	This program is offered in partnership with United Way and provides extensive training to Sponsored Executives.	Sustainability Related
LDRS 0530 Leading Organizational Change	Extended Education	Leadership	UG	This course will explore organizations as open systems with a focus on the nature, dynamics, and challenges of leadership in the 21st century. Learners will understand what it means to view organizations as systems and to build high performance cultures that are founded on candor and trust. Learners will also be exposed to frameworks (e.g. political, structural, symbolic and human) for leading change in a turbulent and complex environment. At an applied level, learners will be offered systems thinking and change leadership tools to enable them to effectively transform differences into opportunities.	Sustainability Related
LDRS 0540 The Art and Practice of Team Leadership	Extended Education	Leadership	UG	This course will focus on a systems thinking approach to team learning and team leadership. It will encourage a systemic perspective to ensure organic communication will the immediate organizational environment and knowledge of influences of the environment on the team. It also aims at fostering appreciation of shared leadership in team work and its relevance in the context of current organizational demands. Learners will develop understanding of five critical principles that promote or stand in the way of effective teamwork and team leadership. At an applied level, learners will learn to express themselves authentically and with clarity so they can learn from each other. It will offer concrete ways to increase awareness, choices, and freedom with all the personal integrity, responsibility, and accountability those ideas imply. Specific tools will be offered for building enduring relationships and develop greater trust in groups and teams.	Sustainability Related
LEAD 3020 Team Building and Diversity	Management, I. H. Asper School of Business	Business Administration	UG	The ability to work effectively with team members is crucial to individual functioning and promotion within organizations. This course examines the structure and dynamics of teams with an aim to understanding teambuilding, team dynamics, diversity, and managing team conflict. Part of working effectively in teams is understanding diversity and how to encourage collaboration in diverse teams. This course will therefore cover topics related to diversity and crosscultural awareness. Equivalent to but students may not hold credit for LEAD 3020 and GMGT 3020 with topics Diversity Management and Team Building or Diversity Management or Team Building. Prerequisites: GMGT 2060 (D) [or GMGT 2080 (D) or GMGT 2080 (D)] and GMGT 2070 (D) [or GMGT 2070 (D)].	Sustainability Related
LEAD 3030 Corporate, Social, and Environmental Responsibility	Management, I. H. Asper School of Business	Business Administration	UG	This course examines the responsibilities of business that accompany maximizing shareholder wealth. This includes balancing the needs of a variety of stakeholders (including owners, employees, customers, suppliers, competitors, neighbours, future generations) among a variety of forms of wellbeing (e.g. financial, ecological, environmental, social, spiritual, physical). Students will learn theory and best practices. Students are encouraged to take this course in the final two years of their program of studies at the I.H. Asper School of Business. Prerequisites: GMGT 1010 (D) and GMGT 2060 (D) [or GMGT 2080 (D) or GMGT 2070 (D)].	Sustainability Related
LEAD 4020 Leadership, Power and Politics in Organizations	Management, I. H. Asper School of Business	Business Administration	UG	This course provides students with an introduction to and understanding of effective leadership and its application to a variety of group and organizational contexts. The course will also describe and enable students to make sense of organizations as political entities and understanding the use of power and social influence. The classes encourage interdisciplinary discussions of theoretical, historical, and practical elements of effective leadership and power. Through interactive lectures and experiential activities, students will have the opportunity to reflect on and develop their own leadership style, to understand how to use and manage power, and to recognize and apply social influence tactics. Students entering second year are strongly recommended to take LEAD 2010 prior to taking LEAD 4020. Prerequisite: GMGT 2070 (D).	Sustainability Related
LING 1420 Language and Gender	Arts	Linguistics	UG	[Formerly 126.142] In exploring the relationship between language and gender, this course addresses such questions as: how are gender differences manifested and perpetuated through language use?; is there such a thing as "women's language"?; how do gender differences influence communication between women and men?; how does gender interact with (for example) race, class and sexuality with respect to language use? In addition, we consider issues of language structure, including sexism in English and the relative success of genderbased language reform efforts.	Sustainability Related
MBIO 1010 Microbiology I	Science	Microbiology	UG	(Lab Required) Topics will include the definition and history of microbiology, concepts of practical microbiology, prokaryotic cell structure, prokaryotic specialization in gene expression and transfer of genetic information, the role of microbes in environments including the human body, and applications of microbiology to food production and biotechnology. Not to be held with MBIO 1011 or the former MBIO 2100 (MBIO 2101) or MBIO 2110 (MBIO 2111). Prerequisite: BIOL 1020.	Sustainability Related
MBIO 2230 Introductory Biogeochemistry	Science	Microbiology	UG	[Formerly 060.223] The roles and interactions of biological, chemical and geological reactions in determining the composition of the environment. Microorganisms as major agents of biogeochemical change and their roles in the element cycles will be especially emphasized. Not available to students who have previously obtained credit in MBIO 4320 (060.432) or MBIO 4440 (060.444) or are currently registered in MBIO 4440. Prerequisite: one of MBIO 1010, MBIO 1011, BIOL 1030, BIOL 1031 or the former 071.125(C); and CHEM 1310 or CHEM 1311 (002.131) (C).	Sustainability Related
MBIO 2420 Introductory Virology	Science	Microbiology	UG	An introduction to the general principles of eukaryotic virology, with emphasis on animal virus systems. These principles will be reinforced and expanded to deal with specific viruses that cause acute and chronic infections in humans. Topics to be discussed include the molecular structure of viruses; the basic multiplication strategies of the major virus families; mechanisms of host immune evasion and viral latency, persistence, and oncology. Prerequisite: MBIO 1010	Sustainability Related
MBIO 3000 Applied Biological Safety	Science	Microbiology	UG	A comprehensive overview of (i) applied biological safety in research and industrial environments and (ii) the diseasecausing features of relevant infectious agents and considerations for their containment. The course consists of lectures and demonstration components. Prerequisite: MBIO 1010 (MBIO 1011)(C) or the former MBIO 2100 (or equivalent MBIO 2101, 060.210) (C); and one of CHEM 1310, CHEM 1311 (002.131), CHEM 1320 (002.132) or permission of instructor. Check with department for availability.	Sustainability Related
MBIO 3010 Mechanisms of Microbial Disease	Science	Microbiology	UG	[Formerly 060.301] A consideration of host-parasite relationships, an introduction to the immune response, microbial pathogenesis, viral diseases, clinical microbiology and public health, and an introduction to antimicrobial agents. Not to be held with MBIO 3011. Prerequisites: MBIO 2020 (MBIO 2021)(C) or the former MBIO 2100 (or equivalent MBIO 2101, 060.210) (C). Corequisite: one of MBIO 2360, MBIO 2361 (060.236), CHEM 2360 or CHEM 2361 (002.236).	Sustainability Related
MBIO 3280 Microbial Communities	Science	Microbiology	UG	(Lab Required) This course will examine microbial communities, which will be discussed in terms of their composition, physiological adaptations and their effects on their abiotic and biological surroundings. Topics will include nutrient cycling, biodegradation and adaptation to extreme environments, and the applications arising from these microbial functions. Methods for quantitation of microbial biomass and biological activity will be discussed. This course may not be held for credit with MBIO 2380. Prerequisites: both MBIO 1010 (MBIO 1011)(C) and CHEM 1310 (CHEM 1311, 002.131)(C); or MBIO 2100 (MBIO 2101, 060.210)(C). MBIO 2020 (MBIO 2020, MBIO 2110) and MBIO 2410 are recommended prerequisites.	Sustainability Related
MBIO 3410 Molecular Biology	Science	Microbiology	UG	[Formerly 060.341] A rigorous treatment of the foundations of modern day molecular biology as it pertains to molecular disease, gene and cell manipulation, and cellular controls. Not to be held with MBIO 3411. Prerequisites: One of MBIO 2370, MBIO 2371 (060.237), CHEM 2370, CHEM 2371 (002.237), MBIO 2780 (060.278), or CHEM 2780 (002.278) (C); and a C or better in one of MBIO 2020 (MBIO 2021), MBIO 2110 (MBIO 2111), BIOL 2520 (BIOL 2521, ZOOL 2280, ZOOL 2281) or BIOL 2500 (BIOL 2501, BOTN 2460, BOTN 2460).	Sustainability Related
MBIO 4010 Immunology H	Science	Microbiology	UG	(Lab Required) [Formerly 060.401] Topics will include antigens, antibodies, antigenantibody reactions, immunogenetics, regulation of immune responses, complement, hypersensitivities, autoimmunity, immunodeficiencies, transplantation and tumour immunology. Priority will be given to fourth year Science Honours students. Not to be held with MBIO 4011, MBIO 4020 (060.402), or the former 060.404. Prerequisite: MBIO 3010 or MBIO 3011 (060.301) (C).	Sustainability Related
MBIO 4410 Virology	Science	Microbiology	UG	[Formerly 060.441] A comprehensive examination of fundamental properties of viruses, virus taxonomy, and the different ways in which viruses replicate. The ways viruses cause disease and experimental methods used in virology also will be examined. Not to be held with MBIO 4411, or for credit by students who have already taken MMIC 7010 (097.701). Prerequisites: MBIO 3010 or MBIO 3011 (060.301) (C); and MBIO 3410 or MBIO 3411(060.341) (C).	Sustainability Related

MBIO 4480 Microbes in our Environment	Science	Microbiology	UG	(Lab Required) A course investigating the diversity of roles microbes play in our immediate environment, and how they affect it. Environments to be examined may include the human body, waste treatment facilities and extreme environments. Molecular tools to study the community structure and roles of individual organisms will also be discussed. This course may not be held for credit with MBIO 3480 or MBIO 4320. Prerequisites: MBIO 3030 (MBIO 3031)(C); or the former MBIO 2110 (MBIO 2111, 60 211)(C); and one of MBIO 2370, MBIO 2371, CHEM 2370, CHEM 2371(C).	Sustainability Related
MBIO 4520 Industrial Bioprocesses	Science	Microbiology	UG	(Lab Required) Bioprocesses for a range of commercially important healthcare and industrial products including antibiotics, vaccines, steroids, therapeutic recombinant proteins, monoclonal antibodies, and ethanol will be discussed. Other topics will include bioreactor design, metabolic engineering, applied genetic engineering and animal cell technology. This course may not be held for credit with MBIO 4510. Prerequisites: MBIO 3030 (or one of MBIO 2100 or MBIO 2101) (C); and one of MBIO 2370, MBIO 2371, CHEM 2370, CHEM 2371 (C).	Sustainability Related
MBIO 7010 Graduate Seminar in Microbiology 1	Science	Microbiology	G	(Formerly 060.701) Seminars covering areas of interest to the faculty and students in the graduate Microbiology program, and current developments in the broad field of microbiology (including microbial physiology, environmental microbiology, virology, pathogenicity, genetics, molecular biology, biochemistry, biotechnology, and cell culture). Open to all qualified students by permission of the Microbiology department head.	Sustainability Related
MBIO 7020 Graduate Seminar in Microbiology 2	Science	Microbiology	G	(Formerly 060.702) Seminars covering areas of interest to the faculty and students in the graduate Microbiology program, and current developments in the broad field of microbiology (including microbial physiology, environmental microbiology, virology, pathogenicity, genetics, molecular biology, biochemistry, biotechnology, and cell culture). Open to all qualified students by permission of the Microbiology department head.	Sustainability Related
MBIO 7030 Graduate Seminar in Microbiology 3	Science	Microbiology	G	(Formerly 060.703) Seminars covering areas of interest to the faculty and students in the graduate Microbiology program, and current developments in the broad field of microbiology (including microbial physiology, environmental microbiology, virology, pathogenicity, genetics, molecular biology, biochemistry, biotechnology, and cell culture). Open to all qualified students by permission of the Microbiology department head.	Sustainability Related
MBIO 7050 Environmental Microbiology	Science	Microbiology	G	Topics and current developments in the field of environmental microbiology will be covered. A combined lecture, discussion, assignment and seminar format may be used. Inquire at the department for availability.	Sustainability Related
MECH 4680 Energy Conservation and Utilization	Engineering	Mechanical Engineering	UG	Energy supply and demand, advanced thermodynamic cycles, conventional energy sources, alternative energy, conservation of energy, environmental considerations. Not to be held for credit with the former 025.468. Prerequisite: MECH 2202 (formerly MECH 2200 or 025.220)	Sustainability Related
MECH 4690 Topics in Heat Transfer and Energy	Engineering	Mechanical Engineering	UG	Some combination of the following advanced topics: conduction heat transfer, radiation, heat exchanger design, two-phase phenomena, fluidization, alternative energy, energy conservation. Other topics of current interest may also be included. Not to be held for credit with the former 025.469. Prerequisite: MECH 3460 (or MECH 3470) (or 025.347).	Sustainability Related
MECH 4692 Renewable Energy	Engineering	Mechanical Engineering	UG	Introduction to renewable energy systems, current and future global energy issues and the need for renewable energy applications, and distributed renewable energy generation. Renewable energy systems that will be considered are: solar heat, solar PV, biomass heat and power, hydro power, and wind power. Students will develop simple numerical models of renewable energy systems. Prerequisites: MECH 2202 (formerly MECH 2200 or 025.220) and MECH 2362 (formerly MECH 2360 or 025.236). Prerequisite: MECH 3460 (formerly MECH 3470 or 025.347)	Sustainability Related
MECH 4694 Advanced Topics in Heat Transfer	Engineering	Mechanical Engineering	UG	Some combination of the following advanced topics: conduction heat transfer, radiation, heat exchanger design, two-phase phenomena, fluidization, alternative energy, energy conservation. Other topics of current interest may also be included. Prerequisite: MECH 3460 (or MECH 3470 or 025.347). Not to be held for credit with MECH 4690 or the former 025.469.	Sustainability Related
MECH 4812 Automotive Engineering	Engineering	Mechanical Engineering	UG	Introduction to vehicle dynamics; power trains; braking systems; road loads, aerodynamics and fuel efficiency; ride and suspension systems; steering systems; tire properties and dynamics; structural analysis and crash safety; performance vehicle design. Prerequisite: MECH 3502 (or the former MECH 3500). Pre or Co-requisite: MECH 3420. May not be held with the former MECH 4810.	Sustainability Related
MECH 4822 Numerical Heat Transfer in Fluid Flow	Engineering	Mechanical Engineering	UG	General conservation equations; specific forms of the conservation equations and energy equations; finite difference methods; one dimensional steady problems' one dimensional unsteady problems' two dimensional steady problems; two dimensional; unsteady problems; convection, solution for the flow field. Prerequisite: MATH 3132 (or MATH 3100) (or 136.310), MATH 2120 (or 136.212), MECH 3460 (or MECH 3470 or 025.347) and MECH 3492 (or MECH 3490 or 025.349). Not to be held for credit with MECH 4820 or the former 025.482.	Sustainability Related
MECH 4870 Fracture and Failure of Engineering Materials	Engineering	Mechanical Engineering	UG	Fracture mechanics and fracture toughness phenomena. Fracture mechanics and fracture toughness phenomena. Effects of structure geometry, loading rate, environment, temperature, composition and microstructure on material integrity. Not to be held with the former 025.487. Prerequisite: MECH 3542 (or MECH 3540 or 025.354).	Sustainability Related
MGMT 0270 Managing in the Utility Sector	Extended Education	Management	UG	This course introduces major issues and trends currently facing managers; promotes an understanding of the environmental, regulatory, technological and competitive forces that frame the utility industry; and provides students with the knowledge and skills to adapt to the evolutionary nature of the industry.	Sustainability Related
MGMT 0400 Strategic Analysis	Extended Education	Management	UG	In this final course in the CIM program, you will have the opportunity to apply the skills and knowledge accumulated in earlier courses to multidimensional case problems. Through case analysis and classroom discussion, you will learn and apply a business policy system and decision making model. The business policy system requires a disciplined approach to identifying strategy based on environmental, resources, and other issues. You will be expected to synthesize these issues and apply the decision making model to develop management action plans. Upon successful completion of this course, you will have developed an understanding of the processes of general management.	Sustainability Related
MKT 3300 International Marketing	Management, I. H. Asper School of Business	Marketing	UG	(Formerly 118.330) A study of international similarities and differences in marketing structures, functions and processes as related to the socioeconomic and cultural environment and a consideration of the opportunities and problems of international marketing. Prerequisite: MKT 2210 (or 118.221) (D).	Sustainability Related
MMIC 7210 Clinical Virology	Arts	Native Studies	G	Each group of viruses will be presented in a lecture dealing with the General Virology and taxonomy, epidemiology, clinical aspects of the diseases, laboratory diagnosis, treatment options, antivirals' classes with their mechanisms of action as well as susceptibility testing (where applicable), and prevention (including infection control measures, chemo and immunoprophylaxis (where applicable)). The course consists of lecture and optional laboratory component (nonmandatory rotation for Graduate students only at CPL, Virus Detection and Serology sections).	Sustainability Related
MMIC 7220 The Ecology of Infectious Diseases	Arts	Native Studies	G	(Formerly 097.722) Explores the study of infectious diseases in a global context from the perspective of biomedical, clinical, health systems/services and social, cultural and environmental determinants of health and disease. The course features didactic, self directed reading and interactive small group sessions.	Sustainability Related
NATV 1200 The Native Peoples of Canada	Arts	Native Studies	UG	(Formerly 032.120) A survey of the political, social, and economic situations of the contemporary First Nations, Métis, and Inuit Peoples of Canada. Students may not hold credit for both NATV 1200 (032.120) and any of: NATV 1220 (032.122) or NATV 1240 (032.124).	Sustainability Related
NATV 1220 The Native Peoples of Canada, Part 1	Arts	Native Studies	UG	A survey of the political, social, and economic situations of the contemporary First Nations, Métis, and Inuit Peoples of Canada from pre-contact to 1945. Students may not hold credit for both NATV 1220 and NATV 1200.	Sustainability Related
NATV 1240 The Native Peoples of Canada, Part 2	Arts	Native Studies	UG	(Formerly 032.124) A survey of the political, social, and economic situations of the contemporary First Nations, Métis, and Inuit Peoples of Canada from 1945 to the present. This course may include a field trip component. Students may not hold credit for both NATV 1240 (032.124) and NATV 1200 (032.120).	Sustainability Related
NATV 2030 Working with Aboriginal Elders	Arts	Native Studies	UG	This course provides an opportunity for students to develop culturally relevant community service skills in Native Studies and to acquire an understanding of traditional teachings by Elders from the Cree and Ojibway traditions. The course includes participation in the annual Elders and Traditional Teachers Gathering conference. Students may not hold credit for both NATV 2030 and NATV 2000 when titled "Working with Elders." Prerequisite: [a grade of "C" or better in NATV 1200 (032.120)] or [a grade of "C" or better in both NATV 1220 (032.122) and NATV 1240 (032.124)] or written consent of instructor or department head.	Sustainability Related
NATV 2110 Introduction to Aboriginal Community Development	Arts	Native Studies	UG	Community development is the main strategy available for achieving the level of governance that most Aboriginal communities seek. It involves a plan that captures the spirit of a community and stirs the imagination of the members. Obstacles include lack of time, resources, vision and understanding of what a community plan for development can accomplish. This course will examine community development within an Aboriginal context. Students may not hold credit for both NATV 2110 and NATV 2000 (032.200) when titled "Introduction to Aboriginal Community Development." Prerequisite: [a grade of "C" or better in NATV 1200 (032.120)] or [a grade of "C" or better in both NATV 1220 (032.122) and NATV 1240 (032.124)] or written consent of department head.	Sustainability Related
NATV 2220 Native Societies and the Political Process	Arts	Native Studies	UG	(Formerly 032.222) An analysis of contemporary Canadian (and U.S.) political and administrative processes as they affect Native people. Depending on instructor, this course may have a weekend field trip. Contact the Department of Native Studies for details.	Sustainability Related
NATV 3100 Aboriginal Healing Ways	Arts	Native Studies	UG	(Formerly 032.310) This course allows students to work with Aboriginal elders or traditional teachers on concepts of healing and wellness. Emphasis is on Anishnabe or Cree healing practices, though other First Nations approaches may be offered. This course may include a field trip component. Students may not hold credit for both NATV 3100 (032.310) and NATV 3000 (032.300) when titled "Exploring Aboriginal Healing." Prerequisite: [a grade of "C" or better in NATV 2100 (032.210)] or written consent of the department head.	Sustainability Related
NATV 3110 Indigenous Environmental Discourse	Arts	Native Studies	UG	This course is designed to further an in-depth understanding of Indigenous perspectives on the environment (rural and urban) through the critical analysis of poetry, essays, fiction, film and art by Indigenous writers, scholars and (media) artists. Prerequisite: [a grade of "C" or better in NATV 2410 (032.241)] or written consent of instructor or department head.	Sustainability Related
NATV 3120 Exploring Aboriginal Economic Perspectives	Arts	Native Studies	UG	Explore the impact of legal, constitutional and governance issues on the internal and external operating environment affecting economic development by Aboriginal peoples. Current strategies for successful partnerships between industry and Aboriginal peoples will also be examined. Students may not hold credit for NATV 3120 and any of: ECON 2350 (018.235) or the former IDM 3000 (098.300) or the former NATV 3310 (032.431). Prerequisite: [a grade of "C" or better in NATV 1200 (032.120)] or [a grade of "C" or better in both NATV 1220 (032.122) and NATV 1240 (032.124)] or written consent of instructor or department head.	Sustainability Related
NATV 3160 Fundraising for Aboriginal Organizations	Arts	Native Studies	UG	This course examines effective fundraising skills as critical for the longevity of many programs in the Aboriginal community. While government fundraising is an important source, understanding grantsmanship and other funding strategies are critical for sustained program existence and effective use of scarce human and financial resources. Students may not hold credit for both NATV 3160 and NATV 3000 (032.300) when titled "Financing Strategies for Aboriginal NonProfit Initiatives." Prerequisite: [a grade of "C" or better in NATV 1200 (032.120)] or [a grade of "C" or better in both NATV 1220 (032.122) and NATV 1240 (032.124)] or written consent of department head.	Sustainability Focused
NATV 3170 Aboriginal Peoples and Racism in Canada	Arts	Native Studies	UG	This course will trace the historical and colonial roots of racism as experienced by Aboriginal Peoples in Canada as well as examine its practices in contemporary society and culture. Concepts such as systemic racism, cultural difference and anti-racist education may be explored. Class format will include readings, seminar discussions, some films and lectures. Critical reading and analysis is expected. Students may not hold credit for both NATV 3170 and NATV 3000 when titled "Racism and Aboriginal Peoples." Prerequisite: [a grade of "C" or better in NATV 1200 (032.120)] or [a grade of "C" or better in both NATV 1220 (032.122) and NATV 1240 (032.124)] or written consent of instructor or department head.	Sustainability Related
NATV 3240 Native Medicine and Health	Arts	Native Studies	UG	(Formerly 032.324) The health, disease, and medical practices of North American Native peoples. A survey of the health and health care of North American Native people from precontact to modern times. Special attention will be paid to traditional concepts of health and healing practices.	Sustainability Related
NATV 3330 Aboriginal People, Science and the Environment	Arts	Native Studies	UG	(Formerly 032.333) This course will examine current Aboriginal environmental and development issues both locally and internationally. The basic principles of Aboriginal philosophy and how present forms of development on Aboriginal land has conflicted with this philosophy will be examined. Prerequisite: written consent of department head.	Sustainability Related
NATV 3340 Circumpolar Cultures and Lifestyles	Arts	Native Studies	UG	(Formerly 032.334) An interdisciplinary study of interrelationships between the history, traditional lifestyles, politics, and environment of circumpolar indigenous peoples. Prerequisite: written consent of department head.	Sustainability Related
NATV 3360 Aboriginal Women of Canada	Arts	Native Studies	UG	(Formerly 032.336) This course explores and critically examines from interdisciplinary and postcolonial perspectives historical and contemporary processes, representation, experiences and social issues specific to Aboriginal women of Canada. Prerequisite: [a grade of "C" or better in NATV 1200 (032.120)] or [a grade of "C" or better in both NATV 1220 (032.122) and NATV 1240 (032.124)] or written consent of instructor or department head.	Sustainability Related
NATV 3380 Cultural Constructions of Gender in Canadian Aboriginal Societies	Arts	Native Studies	UG	(Formerly 032.338) An examination of the theoretical issues that surround the cultural construction of gender leading into detailed ethnographic and historical case studies. Prerequisites: [a grade of "C" or better in NATV 1200 (032.120)] or [a grade of "C" or better in both NATV 1220 (032.122) and NATV 1240 (032.124)] or written consent of instructor.	Sustainability Related
NATV 4220 Environment, Economy and Aboriginal Peoples	Arts	Native Studies	UG	(Formerly 032.422) An analysis of sustainable development issues discussed within a cultural context. Depending on the instructor, this course may have a field component. Contact the Department of Native Studies for details. Prerequisite: written consent of department head.	Sustainability Focused
NATV 4240 Arctic Lifestyles	Arts	Native Studies	UG	(Formerly 032.424) An interdisciplinary study of the interrelationships between culture, economy, and ecology in the Arctic region. Depending on instructor, this course may have a field component. Contact the Department of Native Studies for details. Prerequisite: written consent of department head.	Sustainability Related
NATV 4320 Aboriginal Economic Leadership	Arts	Native Studies	UG	(Formerly 032.432) An analysis of current leadership strengths and challenges facing Aboriginal organizations. Out of this analysis will come understanding of strategies for working effectively with Aboriginal organizations. Students may not hold credit for both NATV 4320 (032.432) and the former IDM 4090 (098.409). Prerequisite: [a grade of "C" or better in NATV 1200 (032.120)] or [a grade of "C" or better in both NATV 1220 (032.122) and NATV 1240 (032.124)] or written consent of instructor.	Sustainability Related

NATV 7290 Seminar in Aboriginal Economy	Arts	Native Studies	G	This seminar deals with a variety of specific topics in Aboriginal Economy. As the course content will vary from year to year, students may take this course more than once for credit.	Sustainability Related
NATV 7310 Critical Theory and Native Studies	Arts	Native Studies	G	This course will assess the relevance of the concepts produced by recent social theory to the situation of Aboriginal peoples and the contribution made by "fourth world" contexts to social theory. Marxism, feminism, poststructuralism, postcolonial theory, and cultural theory will be among the perspectives examined.	Sustainability Related
NRI 7110 Field Seminar	Environment, Earth and Resources	Natural Resource Management	G	Exploration of selected issues in resource and environmental studies in field settings, arranged for groups of students. This course is subject to a field trip fee.	Sustainability Related
NRI 7120 Mineral Resources Management and Policy	Environment, Earth and Resources	Natural Resource Management	G	This course provides an interface between managers and mineral resources, focusing on a selection of practical topics related to minerals and mining. Role of mining activities in the development process; global, national, and provincial distribution of resources; policy issues relating to environmental, economic, and political consequences of nonrenewable resource exploitation.	Sustainability Related
NRI 7130 Energy Resources Management and Policy	Environment, Earth and Resources	Natural Resource Management	G	This course covers global energy issues, objectives, strategies, and policies, and the environmental impacts of alternative energy sources; Canadian energy issues, objectives, strategies, and policies. The course stresses the need for a sound understanding of energy issues of fundamental importance, ability to assess alternatives, appreciation of policy strategies and instruments, and the ability to formulate an energy policy for a region.	Sustainability Related
NRI 7180 Sustainable Development and Natural Resources	Environment, Earth and Resources	Natural Resource Management	G	An examination of the context, concepts, principles, and applications of sustainable development and natural resources at the international, national, and regional levels. Sustainable development is considered from three perspectives: environment, economy, and peoples' wellbeing. Particular attention is focused upon the implications of sustainable development for natural resources and environmental management. Permission of the instructor required. Students are advised to consult with Institute faculty prior to admission.	Sustainability Focused
NRI 7182 Sustainability, Economics, and Natural Resources	Environment, Earth and Resources	Natural Resource Management	G	Economic aspects of sustainability are a critical component of sustainable development. The relationship between environment, economy, and the human dimensions of natural resources comprise the primary focus of the course. Specific topics include environmental/ecological economics, externalities, project assessment, benefit cost analysis, the economics of renewable and nonrenewable resource management and economic aspects of globalization.	Sustainability Focused
NRI 7190 Natural Resources Administration and Law	Environment, Earth and Resources	Natural Resource Management	G	The objective of this course is to explore the legal frameworks and processes in Canada related to natural resource management. After a general review of the Canadian legal system with a particular focus on administrative law, national and international regulatory frameworks related to the ownership and disposition of specific natural resources are explored. Through class discussion, case studies and presentation, the law governing the use and development of natural resources is examined and critiqued. This course is cross listed with LAW 3980 "Natural Resources Law."	Sustainability Related
NRI 7200 The Role of Information Management in Sustainable Resource Use	Environment, Earth and Resources	Natural Resource Management	G	This course reviews some of the key concepts of spatial analysis including geographic information systems, remote sensing, image processing, and cartography. The second part of the course is based on the application of these concepts to a resource management issue using a case study approach. Students will gain familiarity with the following software: Idrisi for GIS; Adobe Photoshop for image processing; and Adobe Illustrator for cartography. Classes will have three components, discussion/presentation; lecture; and lab.	Sustainability Focused
NRI 7222 Human Dimensions of Natural Resources and Environmental Management	Environment, Earth and Resources	Natural Resource Management	G	The human dimensions of Natural Resources and Environmental Management will be considered through the following thematic units: definitions, history, and paradigms of management; interaction of science with politics, actors, groups and participatory processes; Traditional Ecological Knowledge (TEK); communications and environmental perception; institutions, common theory and adaptive management.	Sustainability Related
NRI 7232 Ecological Dimensions of Resource and Environmental Management	Environment, Earth and Resources	Natural Resource Management	G	Current concepts and theories in landscape ecology, plant and animal ecology, life history strategies, food webs, and population and community ecology are discussed as they relate to management. Common themes throughout the course include the importance of scale, the influence of science on management, adaptive management, and critical thinking.	Sustainability Related
NRI 7242 Resource and Environmental Management Policy	Environment, Earth and Resources	Natural Resource Management	G	The complexity of natural resources and environmental policy formulation, implementation, and analysis is the primary focus. Specific topics include: modern state, government and policy development processes; policy community and stakeholders, and role of pressure and interest groups; policy analysis, research and evaluation are examined from a variety of perspectives. Theory and practice are linked in addressing course objectives. Additional information on the program may be found on the NRI website: <a href="http://www.umanitoba.ca/institutes/natural_resources/">www.umanitoba.ca/institutes/natural_resources/</a>	Sustainability Related
NRI 7252 Environmental Management Practice	Environment, Earth and Resources	Natural Resource Management	G	Environmental Management systems (e.g. 14001 and Natural Step), best management practices and project management. Tools: Awareness (Environmental Policy, Environmental Impacts, Risk Assessment), Life Cycle Assessment, Action (Objectives, Targets, Risk Reduction, Indicators, Monitoring, Activities), Advance (Sustainability Report, Triple Bottom Line, Environmental Audit). Additional information on the program may be found on the NRI website: <a href="http://www.umanitoba.ca/institutes/natural_resources/">www.umanitoba.ca/institutes/natural_resources/</a>	Sustainability Focused
NRI 7280 Regional Development in Northern Manitoba	Environment, Earth and Resources	Natural Resource Management	G	A comprehensive examination of natural resources, socioeconomic conditions, and institutional structures forms the basis for an evaluation of long-term sustainability and developmental strategies for Manitoba's North. Permission of the instructor required. Students are advised to consult with Institute faculty prior to admission. Additional information on the program may be found on the NRI website: <a href="http://www.umanitoba.ca/institutes/natural_resources/">www.umanitoba.ca/institutes/natural_resources/</a>	Sustainability Focused
NRI 7290 Environmental Impact Assessment	Environment, Earth and Resources	Natural Resource Management	G	Course is a fundamental tool of decision making regarding natural resources and the environment and will provide students with an understanding of how environmental assessment is designed, administered and operates in the field. Additional information on the program may be found on the NRI website: <a href="http://www.umanitoba.ca/institutes/natural_resources/">www.umanitoba.ca/institutes/natural_resources/</a>	Sustainability Related
NRI 7302 Conservation Biology and Biodiversity Management	Environment, Earth and Resources	Natural Resource Management	G	The course explores management and conservation of biodiversity at the genetic, species, and ecosystem levels of biological organization, and from local to global scales. Emphasis is placed on understanding human impacts on biodiversity, critically evaluating the management of biodiversity conservation, and political, economic, ecological, and philosophical implications and drivers of conservation. Additional information on the program may be found on the NRI website: <a href="http://www.umanitoba.ca/institutes/natural_resources/">www.umanitoba.ca/institutes/natural_resources/</a>	Sustainability Related
NRI 7320 Environmental Risk and Hazards	Environment, Earth and Resources	Natural Resource Management	G	Environmental risk and hazards are viewed in terms of complex processes of natural systems and social formation. Analysis of processes and events is assisted by theoretical formulation, development of models and examination of site or type specific empirical cases. Additional information on the program may be found on the NRI website: <a href="http://www.umanitoba.ca/institutes/natural_resources/">www.umanitoba.ca/institutes/natural_resources/</a>	Sustainability Related
NRI 7330 Water Resources: Analysis, Planning and Management	Environment, Earth and Resources	Natural Resource Management	G	Considering fresh water as a resource, this course initially examines theoretical models and management approaches and practices; water supply requirement, measurements, and management; demand management; and environmental sustainability. The second part encompasses selected aspects of watershed hydrology and management; water and ecosystem health; and river basin management strategies and policies. The final part evaluates institutional arrangements and the development of institutional responsibilities, transboundary issues, opportunities and implications. Additional information on the program may be found on the NRI website: <a href="http://www.umanitoba.ca/institutes/natural_resources/">www.umanitoba.ca/institutes/natural_resources/</a>	Sustainability Focused
NRI 7340 Environmental Justice and Ecosystem Health	Environment, Earth and Resources	Natural Resource Management	G	Explores Ecosystem health and environmental justice issues to realize both the possibilities and barriers to sustainability. Risk, resource distribution and power/decision making are analyzed across race, gender and class differences. Diverse views, theories and methods on community health consider wellbeing, quality of life, vulnerability and ecological integrity. Additional information on the program may be found on the NRI website: <a href="http://www.umanitoba.ca/institutes/natural_resources/">www.umanitoba.ca/institutes/natural_resources/</a>	Sustainability Focused
NRI 7350 Study Design and Quantitative Methods for Resource and Environmental Management	Environment, Earth and Resources	Natural Resource Management	G	This course addresses the quantitative analysis of environmental and natural resources data, emphasizing strong study design to prevent analytical difficulties. Focus is on preparing graduate students in environmental and resources management for dealing with the typical characteristics of environmental data, and for analyses specific to resources data. Additional information on the program may be found on the NRI website: <a href="http://www.umanitoba.ca/institutes/natural_resources/">www.umanitoba.ca/institutes/natural_resources/</a>	Sustainability Related
NRI 7360 Qualitative Field Methods for Community based Resource and Environmental Management	Environment, Earth and Resources	Natural Resource Management	G	The purpose of this course is to provide students with the knowledge and skills necessary to undertake qualitative research relevant to CBRM. The course will be offered in a studio format with an emphasis on student participation in a research team and the practical application of data collection procedures in field setting. Additional information on the program may be found on the NRI website: <a href="http://www.umanitoba.ca/institutes/natural_resources/">www.umanitoba.ca/institutes/natural_resources/</a>	Sustainability Related
NRI 7370 Sustainable Livelihoods, Food Resources and Community Food Security	Environment, Earth and Resources	Natural Resource Management	G	About one third of a household's total environmental impact is related to food considering all the effects of livestock, agriculture and the food industry on water, soil and air, the overuse of fish resources, transport and packaging waste. This course analyzes sustainable livelihoods and food security/sovereignty in the food system (production, processing, marketing, etc.). Additional information on the program may be found on the NRI website: <a href="http://www.umanitoba.ca/institutes/natural_resources/">www.umanitoba.ca/institutes/natural_resources/</a>	Sustainability Focused
NURS 2110 Health Assessment of Individuals	Nursing	Nursing	UG	(Formerly 049.211) The focus is on health assessment of adults including the normal changes which occur in childhood and aging. The course will provide opportunity to learn the health history and physical examination skills essential to health assessment.	Sustainability Related
NURS 2180 Clinical Nursing Practice I	Nursing	Nursing	UG	(Formerly 049.218) Concepts of health promotion are applied to the care of infants, children, adolescents and young adults. The focus is on health related nursing phenomena and the development of assessment, communication, teaching/facilitative, and basic psychomotor skills. Pre or corequisite: NURS 1280 (or 049.128); and NURS 2120 (or 049.212); and NURS 2130 (or 049.213); and NURS 2240. Course is evaluated on a pass/fail basis.	Sustainability Related
NURS 2190 Clinical Nursing Practice II	Nursing	Nursing	UG	(Formerly 049.219) Concepts of health promotion and illness prevention are applied to the care of healthy and at risk elderly adults. The focus is on health risk phenomena and the development of assessment, communication, teaching/facilitative, and basic psychomotor skills. Pre or corequisite: NURS 1280 (or 049.128); and NURS 2120 (or 049.212); and NURS 2130 (or 049.213); and NURS 2230. Course is evaluated on a pass/fail basis.	Sustainability Related
NURS 2230 Health Promotion of Older Adults and their Families	Nursing	Nursing	UG	Focuses on the aging changes that occur in older adults and the interaction between aging changes and illness and the resultant presentation of symptoms and functional consequences. Health promotion strategies, including health teaching are highlighted to encourage, maintain and enhance independence, based on the older adult's abilities. Selected teaching/learning models, barriers and motivators, and their application to older adults are discussed.	Sustainability Related
NURS 2240 Health Promotion of Child Bearing & Child Rearing Families	Nursing	Nursing	UG	This course provides an overview of health promotion of infants, children, adolescents, and parents within the family context. The focus is on theories, concepts, nursing research, evidencedbased nursing practice, and nursing care related to children and families. Prerequisites: ZOOL 1320 (or 022.132), ZOOL 1330 (or 022.133), NURS 1260 (or 049.126) and NURS 1280 (or 049.128). Pre or corequisite: NURS 2120 (or 049.212).	Sustainability Related
NURS 2516 Client and Context 2: Human Diversity	Nursing	Nursing	UG	This course provides students with knowledge of the social factors that enhance or diminish the health of individuals, families and communities. Students will also analyze the concept of clientcentered care and its relevance in professional nursing practice. Preor Corequisites: NURS 2500 and NURS 2520. Registration is normally restricted to students in Year 2 of the program.	Sustainability Related
NURS 2610 Health and Physical Aspects of Aging	Nursing	Nursing	UG	(Formerly 049.261) An introduction to health, wellbeing and aging. Emphasis on health as multidimensional including physical, social and mental health. Integration of theory and research in examining selected issues related to health and physical aspects of aging. Students may not hold credit for NURS 2610 (or 049.261) and PHED 2610 (or 057.261). (A required Option in Aging course)	Sustainability Related
NURS 3200 Nursing of Individuals and Families with Long-Term Illness and Disability	Nursing	Nursing	UG	(Formerly 049.320) Nursing of individuals and families of all age groups who require palliative nursing measures or need assistance in adapting to longterm illness. The learner will participate in planning relevant clinical experiences to meet own learning objectives.	Sustainability Related
NURS 3220 Community Health Nursing I	Nursing	Nursing	UG	(Formerly 049.322) An analysis of concepts of prevention of disease/dysfunction and promotion of health in community based populations. Focus is on primary and secondary prevention and the promotion of health with identified risk groups. Population groups are assessed for risks to their physical and psychosocial health and current preventive and promotive measures analyzed and critiqued. The impact of macro systems in promoting health are discussed. MNHW NURS 3360 (or 049.336).	Sustainability Related
NURS 3330 Women and Health	Nursing	Nursing	UG	(Formerly 049.333) Introduction to health concepts and issues as they relate to women from a woman's health perspective. Emphasis on enhancing selfcare and prevention. Studies the relationship between a woman and the Canadian Health Care System, and appropriate methodology for selfcare, visavis nutrition, reproduction, menopause, etc. Not to be held for credit with the former 049.423. Caution: This course is not intended for 1st year students.	Sustainability Related
NURS 3340 Providing Care in a Culturally Diverse Society	Nursing	Nursing	UG	(Formerly 049.334) This course fosters skills in recognizing and understanding the impact of culture on health related values, beliefs and practices. A culturalgeneral approach is used to develop skills in the provision of nursing care within a culturally diverse society.	Sustainability Related
NURS 3360 Assessing the Health of Communities	Nursing	Nursing	UG	(Formerly 049.336) An analysis of concepts of prevention of disease and dysfunction in aggregate and communitybased populations in First Nations Communities. MNHW NURS 3220 (or 049.322).	Sustainability Related
NURS 3510 Client and Context 3: Supportive and Palliative Care	Nursing	Nursing	UG	This course provides students with the knowledge and critical thinking skills to provide supportive and palliative nursing care to individuals and families experiencing variety of life/restricted illnesses including end of life. May not be held with NURS 4250. Prerequisites: HNCS 1210 and NURS 2542. Registration is normally restricted to students in Year 3 of the program.	Sustainability Related
NURS 4160 Community Health Nursing II	Nursing	Nursing	UG	(Formerly 049.416) Application, integration and synthesis of knowledge and skills in the utilization of the nursing process with families. Development of skills in the process of change with families. Orientation to the concept of prevention and health promotion as focal concepts in the practice of nursing with families in communities. Pre or corequisite: NURS 3220 (or 049.322), MNHW NURS 4300 (or 049.430).	Sustainability Related
NURS 4220 Law and Ethics in Nursing Practice	Nursing	Nursing	UG	(Formerly 049.422) A study of the legal and philosophical bases of the nursing profession and the legal and bioethical issues confronting the professional nurse primarily in the practice setting. A major goal of the course is to draw upon material specific to the professional nurse.	Sustainability Related
NURS 4260 Nursing Care in Mental Health and Illness	Nursing	Nursing	UG	(Formerly 049.426) This course focuses on the effects of alterations in mental health on the individual, the family and the community. It explores how nurses can facilitate healing and promote mental health. The student will gain a greater awareness of the therapeutic use of self in the provision of nursing care. Societal and historical issues influencing mental health in populations will be highlighted.	Sustainability Related

NURS 4300 Promoting Health of Communities	Nursing	Nursing	UG	(Formerly 049.430) Theoretical and practical application regarding the promotion of health in First Nations Communities. MNHW NURS 4160 (or 049.416).	Sustainability Related
NURS 4420 Health Promotion in the Community	Nursing	Nursing	UG	This course will provide the opportunity to examine concepts, theories, research and nursing roles as they apply to the promotion of health in communities. The focus will be on promoting the health of aggregates and communities. Prerequisite: As a general principle, all courses from any given year are to be completed before proceeding to the next year.	Sustainability Related
NURS 4440 Prevention of Illness	Nursing	Nursing	UG	This course focuses on the concepts of risk reduction and the prevention of illness and injury as they are applied to individuals, groups, and populations. The nurse's role in prevention and the early detection of health risks is highlighted. Issues and research relevant to illness and injury prevention are incorporated. Not to be held with the former NURS 2170 (or 049.217). Prerequisites: As a general principle, all courses from any given year are to be completed before proceeding to the next year.	Sustainability Related
NURS 7100 Administration in Nursing	Nursing	Nursing	G	(Formerly 049.710) Exploration and analysis of the roles and responsibilities of the nursing administrator in today's health care system. Examination of the organizational structure and culture of nursing services in relation to conflict resolution, interdisciplinary relationships and union negotiation. Includes preceptorship experience. Offered on a rotating basis and currently under review.	Sustainability Related
OPM 7130 Supply Chain Sustainability	Management, I. H. Asper School of Business	Supply Chain Management	G	This course takes a broad look at supply chain sustainability. Supply chain management includes logistics/transportation, purchasing, and a few aspects of marketing. Sustainability is a multidimensional concept, spanning environmental, social and economic issues. Delivery is via interactive lectures, small group discussions, and writing/presenting a sustainability term paper.	Sustainability Focused
OPM 7180 Sustainable Lean Management	Management, I. H. Asper School of Business	Supply Chain Management	G	Sustainable Lean Management will provide students with a basic understanding of the components of Sustainable Lean Management in the context of Profit, People and Planet (the triple bottom line) and the opportunity to practically apply the principles, methods and tools of Sustainable Lean Management to real problems. Sustainable Lean Management, at its core, is about systematically identifying the strategic problems of an organization and methodically solving those problems while simultaneously growing and developing the potential of people to the benefit of all stakeholders of the enterprise. Prerequisite: OPM 7120.	Sustainability Focused
ORLB 3300 Pathology and Microbiology 2	Dentistry	Oral Biology	UG	A study of selected infectious diseases and the application of general diagnostic pathology in dental practice. May not be held with ORLB 3020. (Formerly 100.711) The description of the aetiology of microbial infections in the mouth and infections elsewhere in the body which involve oral bacteria. The control of such infections by vaccines, antibiotics and antimicrobial drugs. Treatment of infections in the immunosuppressed, post operative infections and nosocomial infections. The relationships of host immune system to the oral flora.	Sustainability Related
ORLB 7110 Infectious Diseases and the Oral Cavity	Dentistry	Oral Biology	G	(Formerly 168.611) Students study the theoretical and philosophical foundations of occupational therapy and the relationship between occupation and health and wellbeing. A case based introduction to the processes and approaches that guide practice with clients of various ages and in a variety of practice settings.	Sustainability Related
OT 6110 Theoretical and Philosophical Foundations of Occupational Therapy	Rehabilitation Sciences	Occupational Therapy	G	(Formerly 168.612) Students study definitions of health, factors influencing health, and systems that relate to health in populations. Students are also introduced to classification of diseases and disorders and impairments and the disablement process.	Sustainability Related
OT 6120 Health and Disability	Rehabilitation Sciences	Occupational Therapy	G	(Formerly 168.631) An examination of physical, social, cultural and institutional aspects of the environment and their relationship to occupational performance throughout the life span. Students will begin to identify the environment in terms of enablers and obstacles to function for individuals with variable capacities.	Sustainability Related
OT 6310 The Environment and Occupational Performance	Rehabilitation Sciences	Occupational Therapy	G	(Formerly 168.632) An introduction to diseases, disorders and impairments as barriers to human occupational performance including an introduction to occupational therapy management approaches to enabling function.	Sustainability Related
OT 6320 Health Conditions and Occupational Performance	Rehabilitation Sciences	Occupational Therapy	G	(Formerly PSDO 4080) This clinical program is centered in community clinics in the province of Manitoba. The clinics serve the elderly, aboriginal, low income or northern patients. Health education seminars may be a requirement at some sites, prepared and delivered by the student interns. May not be held with PSDO 4080. Course evaluated on a pass/fail basis.	Sustainability Related
PSDO 4422 Community Dentistry Externship	Dentistry	Preventive Dental Science	UG	Examines the role of language and communication in conflict and conflict resolution. These theoretical and practice perspectives are fundamental to the field of conflict analysis and resolution/peace studies. The role of power, gender, and culture in communication and conflict are reviewed. Theories and practical skills for successful communication, collaborative problem-solving, and trust building are explored. This class is relevant for addressing conflicts within diverse settings.	Sustainability Related
PEAC 7010 Interpersonal Communication, Problem Solving, and Trust building	Graduate Studies	Mauro Centre for Peace Studies	G	Provides an overview of the theoretical foundations of the interdisciplinary field of conflict analysis and resolution, examining macro and micro theories regarding the causes of conflicts and approaches to their resolution. Conflicts are complex and take shape on multiple, interlocking planes. The course focuses on theory and the implications of these theories for practice.	Sustainability Related
PEAC 7030 International Conflict Resolution and Peacebuilding	Graduate Studies	Mauro Centre for Peace Studies	G	Examines international conflict resolution and post accord peacebuilding. Theories regarding the causes of international conflict are reviewed. Approaches for just and enduring resolution to international conflicts, building peace, and the promotion of a global civil society are explored.	Sustainability Related
PEAC 7040 Violence Intervention and Prevention	Graduate Studies	Mauro Centre for Peace Studies	G	Examines different definitions and types of violence from the interpersonal to the global levels (e.g., family violence, youth and gang violence, violence in the workplace, hate crimes, and war). Theories of human aggression and causes of violence, as well as approaches for violence intervention and prevention are reviewed. Theories of nonviolence are explored.	Sustainability Related
PEAC 7050 Intercultural Conflict Resolution and Peace Building	Graduate Studies	Mauro Centre for Peace Studies	G	Examines the role of socially constructed identities and meaning in intergroup conflicts in a variety of contexts. Culture is broadly conceived to encompass a variety of identities, including differences along racial, ethnic, religious, gender, and class lines. Various models for resolution are reviewed. The nature of and ethics of intervention in cultures other than one's own are explored.	Sustainability Related
PEAC 7110 International Human Rights and Human Security	Graduate Studies	Mauro Centre for Peace Studies	G	This course examines the shift in focus from state security to people. Human security is a bridge between the interrelated fields of development, human rights and conflict resolution. The course explores how these efforts can best be understood and applied.	Sustainability Related
PEAC 7120 Peacebuilding and Social Justice	Graduate Studies	Mauro Centre for Peace Studies	G	This course examines the role of peacebuilding in short term crisis intervention and longer term conflict transformation processes. Social justice is addressed at the systems level as it impacts the achievement of sustainable reconciliation. Crisis management in conflict settings, the root causes of conflict and its prevention are explored.	Sustainability Focused
PEAC 7122 Dispute Systems Design	Graduate Studies	Mauro Centre for Peace Studies	G	Examines the role of conflict resolution within organizations and diverse settings (workplace, schools, communities, multiparty conflicts, international conflicts). The course focuses on analyzing how conflict is built into organizational structures and systems, and redesigning the system to produce effective human centres relations.	Sustainability Related
PEAC 7124 Gender, Conflict and Peacemaking	Graduate Studies	Mauro Centre for Peace Studies	G	Examines the role of gender in conflict and peacemaking in areas of armed conflict. Women tend to be impacted and respond to conflict in ways different from men. The course explores the theoretical and practical contributions of women activists, peace researchers and educators have made toward understanding the role of gender.	Sustainability Related
PEAC 7126 Ethnic Conflict Analysis and Resolution	Graduate Studies	Mauro Centre for Peace Studies	G	Examines theories of ethnic conflict and the intervention methods used by states, international organizations and conflict resolution and peace practitioners to analyze, manage and resolve ethnic conflicts. Case studies are used to explain conflict analysis and resolution and peacebuilding.	Sustainability Related
PEAC 7128 Storytelling: Identity, Power and Transformation	Graduate Studies	Mauro Centre for Peace Studies	G	Examines the role of narrative and storytelling in conflict resolution, theory, research and practice. The relationship between language and power and destructive or constructive relationships is explored. The use of storytelling based projects as a means of peacebuilding and community building are explored.	Sustainability Related
PEAC 7230 Gender, Conflict and Peacemaking	Graduate Studies	Mauro Centre for Peace Studies	G	Examines the role of gender in conflict and peacemaking in areas of armed conflict. Women tend to be impacted and respond to conflict in ways different from men. The course explores the theoretical and practical contributions women activists, peace researchers and educators have made toward understanding the role of gender.	Sustainability Related
PEAC 7240 Indigenous World Views and Approaches to Peacebuilding	Graduate Studies	Mauro Centre for Peace Studies	G	Examines indigenous models of peacebuilding from community level to national level. Emphasis is placed on restorative processes fundamental to cohesive relationships with others. This is achieved through ceremony, empathy, compassion, conflict resolution and restoration part of the peacebuilding models of indigenous peoples.	Sustainability Related
PEAC 7250 Restorative and Social Justice	Graduate Studies	Mauro Centre for Peace Studies	G	Examines the principles of restorative justice, the theoretical foundations of the restorative justice movement, and the development of new restorative justice programs. Restorative justice healing, reintegration and reconciliation are explored in a variety of contexts, including colonized and postcolonial indigenous communities.	Sustainability Related
PEAC 7260 Peace Education	Graduate Studies	Mauro Centre for Peace Studies	G	Examines the role of peace education as students seek to make sense of complicated and perilous events in their society. The course provides students with a background in the area of social justice, peace studies and conflict resolution.	Sustainability Related
PEAC 7280 Children and War	Graduate Studies	Mauro Centre for Peace Studies	G	Examines the impact of international war, civil war, and genocide on young people. The role of gender, class, and culture are explored; as well as the role of peacemakers, governments, and communities for addressing these issues. The implications for both the political socialization of children as well as how young people may be actors in political solutions will be explored.	Sustainability Related
PEAC 7500 Practicum	Graduate Studies	Mauro Centre for Peace Studies	G	Students develop awareness of theoretical knowledge, practice skills and abilities necessary for intervention in community, group and organizational conflicts at a practicum site. Students integrate theory and experiential learning into practice to analyze the conflict, during the intervention, and post intervention reflection.	Sustainability Related
PERS 1200 Physical Activity, Health and Wellness	Kinesiology and Recreation Management	Physical Education & Recreation Studies General	UG	An examination of the importance of physical activity for health and wellness, theories and determinants of health promoting behaviours, and strategies for promoting health behaviours. Examination of the benefits of physical activity for health and wellness, the present and recommended levels of physical activity, the factors influencing participation in physical activity, and individual organizational and national interventions for increasing physical activity. May not be held for credit with PHED 1200 (057.120).	Sustainability Related
PERS 2100 Introduction to Professional Practice	Kinesiology and Recreation Management	Physical Education & Recreation Studies General	UG	An introduction to professional values and behaviours in the broad fields related to kinesiology, physical education, and recreation management including accountability, commitment, ethical decision making, interpersonal communication, respect for diversity, and service. Prerequisites: PERS 1200 (PHED 1200 or 057.120) (C) or PERS 1500 (PHED 1500 or 057.150) (C) and PERS 1400 (REC 1400 or 123.140) (C).	Sustainability Related
PERS 3100 Inclusive Physical Activity and Leisure	Kinesiology and Recreation Management	Physical Education & Recreation Studies General	UG	This course introduces the foundations of inclusive physical activity and leisure and the application of this knowledge to individuals from diverse backgrounds and experiences with a focus on people with various forms of impairment. May not hold for credit with PHED 3390 (057.339, REC 3060 or 123.306.) Prerequisite: PERS 2100 (C).	Sustainability Related
PERS 3170 Canadian Sport History	Kinesiology and Recreation Management	Physical Education & Recreation Studies General	UG	This course will emphasize the rise of modern sport in Canada and will reflect on the ways in which social change has influenced sport and physical activity. This course provides an overview of issues and topics related to the development of modern sports in Canada. Using the concepts of class, gender, race and ethnic identity as interpretive tools, the course will examine: physical activities and games of First Nations; sport and recreation in new France and British North America; sports in postConfederation Canada; and developments in the 20th and 21st centuries. May not be held for credit with KIN 3170 (PHED 3170, PHED 3070 or 057.307). Requires a paid facility use pass (day pass acceptable).	Sustainability Related
PERS 4340 Sport, Film and Society	Kinesiology and Recreation Management	Physical Education & Recreation Studies General	UG	This seminar format course encourages students to use films as "texts" through which important sociocultural themes related to the study of sport, recreation, physical activity, dance, and physical education can be explored. It builds upon themes explored in courses such as PERS 3460 and uses film as a way to examine the intersections between the representations of key historical and sociological concepts, such as social class, gender, and race/ethnicity and the representations of sport and the moving body. The course is organized around these themes and includes a variety of film genres, primarily feature films and documentaries. Each seminar includes one or more screenings upon which class discussions are based. The course concludes with a screening of the films made by the students themselves, a key component of the course evaluation. Prerequisite: PERS 3460 or written permission of the instructor.	Sustainability Related
PERS 7006 Current Research in Physical Activity, Health, and Leisure: PsychoSocial Aspects	Kinesiology and Recreation Management	Physical Education & Recreation Studies General	G	This course will include the presentation of current research and scholarship on physical activity, health, and leisure from social science and humanities perspectives.	Sustainability Related
PHAC 4030 Drugs in Human Disease I	Medicine	Pharmacology	UG	Foundation physiological principles underlying human disease integrated with drug disposition and effects of important drug groups on disorders of the autonomic and central nervous systems, and the cardiovascular system. May not be held with PHAC 4020. Prerequisites: BIOL 2410 (former Z00L 2530 or 022.253) and BIOL 2420 (former Z00L 2540 or 022.254).	Sustainability Related
PHAC 4040 Drugs in Human Disease II	Medicine	Pharmacology	UG	Foundation physiological principles underlying human disease integrated with effects of important drug groups on endocrine and organ system disorders, allergy and inflammation, infection, and cancer. The course also offers an introduction to basic clinical pharmacology as well as several current specialized topics in pharmacology. May not be held with PHAC 4020. Prerequisites: BIOL 2410 (former Z00L 2530 or 022.253) and BIOL 2420 (former Z00L 2540 or 022.254).	Sustainability Related
PHED 3360 Culturally Relevant Physical Education and Health	Kinesiology and Recreation Management	Physical Education	UG	An investigation of physical health and education from a critical theorist perspective, that is, one that investigates the different relations of power and privilege (based on ability, gender, race, socioeconomic class, sexuality ...) experienced within education experiences of young people from diverse backgrounds will be analyzed from a holistic perspective. May not hold for credit with PHED 3100 (057.310). Prerequisite: PHED 2720 (PHED 2650 or 057.265) (C).	Sustainability Related
PHED 3770 Aboriginal Games and Activities	Kinesiology and Recreation Management	Physical Education	UG	This course will provide students with a unique opportunity to explore, in theory and practice, traditional and contemporary world views related to historical, cultural, and environmental approaches to Aboriginal games and activities. Requires a paid facility use pass. Evaluated pass/fail.	Sustainability Related
PHED 7060 Social and Psychological Components of Sports and Physical Education	Kinesiology and Recreation Management	Physical Education	G	(Formerly 057.706) The sociopsychological components of movement and the role of physical activity in the sociopsychological development of children. Prerequisite: PHED 3460 or 057.346 plus consent of instructor.	Sustainability Related

PHGY 7252 Respiratory Physiology & Pathophysiology	Medicine	Physiology	G	Lecture, readings, and student directed discussion course dealing with fundamental biophysical processes and function of major respiratory organ systems (including methane transport and muscle contraction in respiratory physiology). Illustrated with pathophysiological structures and function, and their relationship to disease. The course will also examine current therapeutic approaches and active areas of research interest.	Sustainability Related
PHIL 2290 Ethics and Society	Arts	Philosophy	UG	(Formerly 015.229) An examination of some contemporary ethical theories and their application to a number of practical issues. Current issues to be discussed may include: ethics and the environment; abortion and euthanasia; sexual freedom and human equality; civil disobedience; individual liberty vs. state authority; punishment; and, justice and utility. Students may not hold credit for PHIL 2290 (015.229) and any of: PHIL 2531 (015.253) or PHIL 2740 (015.274) or PHIL 2741 or PHIL 2750 (015.275) or PHIL 2751. Prerequisite: successful completion of 30 hours of university credit.	Sustainability Related
PHIL 2300 Political Philosophy	Arts	Philosophy	UG	(Formerly 015.230) An analysis and evaluation of the main ideals: justice, freedom, happiness, equality, and selfrealization of the great political philosophers (e.g., Plato, Hobbes, Locke, Mill, and Marx) and of their theories of human nature and their blueprints for society. Students may not hold credit for both PHIL 2300 (015.230) and PHIL 2201 (015.220). Prerequisite: successful completion of 30 hours of university credit.	Sustainability Related
PHIL 2740 Ethics and Biomedicine	Arts	Philosophy	UG	(Formerly 015.274) An examination of some important ethical issues arising out of recent developments in biology and medicine. Examples of topics to be covered include: the allocation of scarce medical resources; genetic engineering; euthanasia vs. the prolongation of life; abortion and infanticide, and experimentation on human subjects. Students may not hold credit for PHIL 2740 (015.274) and any of: PHIL 2741 or PHIL 2290 (015.229) or PHIL 2531 (015.253). Prerequisite: successful completion of 30 hours of university credit.	Sustainability Related
PHIL 2750 Ethics and the Environment	Arts	Philosophy	UG	(Formerly 015.275) An examination of some important ethical issues connected with environmental pollution and resource depletion. Examples to be covered include: the ideal of liberty and environmental limits; scarcity and the ideal of justice; growth vs. steady-state economics; animal rights, and survival ethics vs. welfare ethics. Students may not hold credit for PHIL 2750 (015.275) and any of: PHIL 2751 or PHIL 2290 (015.229) or PHIL 2531 (015.253). Prerequisite: successful completion of 30 hours of university credit.	Sustainability Related
PHIL 2830 Business Ethics	Arts	Philosophy	UG	(Formerly 015.283) The course will explore the application of ethical theory to business. Topics to be discussed will normally include: theories of justice; corporate responsibility; ethics of advertising; consumer and environment protection, and professionalising. Students may not hold credit for both PHIL 2830 (015.283) and PHIL 2831. Prerequisite: successful completion of 30 hours of university credit.	Sustainability Related
PHIL 2840 The Ethics of War and Peace	Arts	Philosophy	UG	(Formerly 015.284) A study of the ethical issues connected with war and the securing of peace, as articulated in the writings of major philosophers and selected political and military thinkers. Relevant moral theories, such as nonviolence, holy war, the just war, the ethical reasoning underlying policies of deterrence, will be critically examined in historical and contemporary context. Students may not hold credit for both PHIL 2840 (015.284) and PHIL 2841.	Sustainability Related
PHRM 1110 Pharmacy Skills Laboratory	Pharmacy	Pharmacy	UG	This is a multifaceted course using an integrated skills laboratory format to develop essential skills that students require for pharmacy practice. These skills primarily involve communication, problem solving and critical thinking that form the foundation for life-long learning. Exploring ethical principles and professionalism are also essential components of this course.	Sustainability Related
PHYS 1300 Energy and the Environment	Science	Physics	UG	(Formerly 016.130) This course provides a broad physical outlook on the environment in which we live. Emphasis will be placed on topics of current interest such as the atmosphere, outer space, the fundamental structure of energy and matter, energy sources, the application of physical principles in modern technology, etc. The lectures will include films and demonstrations; student participation will be encouraged in discussions and in the choice of topics. The course is designed for students of all faculties and a prior knowledge of mathematics and physics is not a requirement. Not to be held with PHYS 1301. This course cannot be used as a part of a Major or Minor in Physics.	Sustainability Related
PHYS 2350 Energy Sources: Physical Aspects	Science	Physics	UG	(Formerly 016.235) A detailed investigation of the physical aspects of energy production and utilization. Critical comparison of the various energy sources including solar, nuclear, fossil, and wind will be emphasized. The physics of energy collection, production, storage, and distribution will be discussed in the context of thermodynamics, radiation, solid state and nuclear physics. Prerequisite: a grade of "C" or better in one of PHYS 1070, PHYS 1071 (016.107), PHYS 1030, or PHYS 1031 (016.103); or consent of department.	Sustainability Related
PLNT 0770 Weed Management	Agricultural and Food Sciences	Plant Science	UG	(Formerly 039.077) General principles of pest management and pesticide use safety as they relate to weed control. Economic importance, principles of cultural, biological and chemical weed control, weed identification, introduction to herbicides and factors influencing their use and selectivity. Prerequisite: DAGR 0420 (or 065.042).	Sustainability Related
PLNT 0780 Plant Disease Management	Agricultural and Food Sciences	Plant Science	UG	(Formerly 039.078) General principles of pest management and pesticide use safety as they relate to plant disease control. Discussion of diseases attacking field and horticultural crops in the prairies including: disease symptoms, cycles, prevention and control. Prerequisite: DAGR 0420 (or 065.042).	Sustainability Related
PLNT 0790 Landscape Horticulture	Agricultural and Food Sciences	Plant Science	UG	(Formerly 039.079) Principles of the production and use of horticultural plants in the rural and urban landscape including the establishment and value of shelterbelts. Topics include basic plant propagation, the principles of choosing and establishing ornamental trees, shrubs, herbaceous perennials, annuals, lawns, and multi-use fruit-bearing plants in the landscape, and development of a landscape plan.	Sustainability Related
PLNT 1000 Urban Agriculture	Agricultural and Food Sciences	Plant Science	UG	Urban environments and their importance for food production, increasing biodiversity, and reducing pollution are presented. Topics include principles of vegetable, fruit and herb production, landscape plants, and utilization of natural systems for composting, water management and reduced pesticide use. Benefits to environment, community development, and human health are discussed.	Sustainability Related
PLNT 2500 Crop Production	Agricultural and Food Sciences	Plant Science	UG	(Formerly 039.250) An introduction to the principles and practices of crop production in Canada. Topics will include physiological processes and factors affecting plant yield, plant improvement, seed production, and production of the major cereal, oilseed, forage and special crops. Prerequisite: AGR 1500 (or 065.150).	Sustainability Related
PLNT 2510 Fundamentals of Horticulture	Agricultural and Food Sciences	Plant Science	UG	(Formerly 039.251) Principles of the culture, marketing, and utilization of fruits, vegetables, and ornamentals, their contribution to the economy and wellbeing of consumers, and impact of horticultural activities on the environment. Prerequisites: BIOL 1020 and BIOL 1030 or the former 071.125; AGR 1500 (or 065.150); or consent of instructor. This course is offered in alternate years.	Sustainability Related
PLNT 3510 Cropping Systems	Agricultural and Food Sciences	Plant Science	UG	(Formerly 039.351) Examination and analysis of sustainable prairie cropping systems. Emphasis will be placed on integrated systems that optimize the benefits of crop rotation, and conserve soil, water and wildlife resources. Conventional, traditional and alternative crop production systems will be discussed. Includes a limited number of tutorials to allow for field tours and guest speakers. Prerequisite: PLNT 2500 (or 039.250).	Sustainability Focused
PLNT 3520 Principles of Plant Improvement	Agricultural and Food Sciences	Plant Science	UG	(Formerly 039.352) Basic objectives, principles, and methods of plant genetic improvement. Traditional and modern plant breeding, genetic resources, selection, and applications of tissue culture, genetic engineering and molecular markers to plant improvement. Prerequisite: PLNT 2520 (or 039.252) or BIOL 2520 or the former B07N 2460 (or 001.246).	Sustainability Related
PLNT 3560 Organic Crop Production on the Prairies	Agricultural and Food Sciences	Plant Science	UG	(Formerly 039.356) Management principles and practices involved in the production of organic field and forage crops with a focus on the Canadian Prairie region. Also available in online delivered format. Prerequisites: PLNT 2500 (or 039.250) and SOIL 3600 (or 040.360) or the former 040.351 or consent of instructor.	Sustainability Related
PLNT 3570 Fundamentals of Plant Pathology	Agricultural and Food Sciences	Plant Science	UG	(Formerly 039.357) An introduction to the science of plant pathology. Topics include causal agents of diseases, symptoms and diagnoses, modes of infections and spread, mechanisms in disease and control, effects of the environment on disease development, and methods of disease control. This course is a prerequisite for more advanced courses in plant pathology. Prerequisite: BIOL 2260 or the former B02N 2210 (or 001.221).	Sustainability Related
PLNT 4270 Plant Disease Control	Agricultural and Food Sciences	Plant Science	UG	(Formerly 039.427) Diseases attacking field crops and horticultural plants: recognition of symptoms, methods of prevention, alleviation, and control. Prerequisite: PLNT 2500 (or 039.250) or consent of instructor.	Sustainability Related
PLNT 4410 Grassland Agriculture: Plant, Animal and Environment	Agricultural and Food Sciences	Plant Science	UG	(Formerly 039.441) Interrelationships between the biological components of grassland agriculture as they relate to forage production on the Canadian Prairies. Topics include utilization by wild and domestic animals, plant community relationships and role of forages in multiple land use planning. This course also offered in Animal Science as ANSC 4410.	Sustainability Related
PLNT 4570 Research Methods in Plant Pathology	Agricultural and Food Sciences	Plant Science	UG	(Formerly 039.457) Course will provide practical training in plant pathology and will cover plant disease diagnosis, pathogen isolation, identification, inoculation, and storage. Molecular techniques currently used in the study of plant pathogens will be covered. The laboratory component aims at preparing students for a professional career in plant protection and research in plant pathology. Prerequisite: PLNT 3570 (or 039.357) or consent of instructor.	Sustainability Related
PLNT 4580 Molecular Plant/Microbe Interactions	Agricultural and Food Sciences	Plant Science	UG	(Formerly 039.458) Course will cover general principles and mechanisms related to plant/microbe interactions, such as in genotagene and toxin models. Emphasis will be on biochemical/molecular mechanisms of plant/microbe recognition, pathogenesis, and plant reactions to infections. Both beneficial and deleterious associations will be covered. Prerequisite: PLNT 3570 (or 039.357). This course is offered in alternate years.	Sustainability Related
PLNT 4590 Physiology of Crop Plants	Agricultural and Food Sciences	Plant Science	UG	Concepts dealing with the physiological response of crop plants to the environment from the time of seed germination through to reproduction. Students may not hold credit with the former 039.452. Prerequisites: PLNT 3400 (or the former PLNT 3500) or BIOL 3400 (or the former BIOL 3450) or consent of instructor.	Sustainability Related
PLNT 7120 Special Problems in Plant Science	Agricultural and Food Sciences	Plant Science	G	Reading or assignment or research on specific aspects of crop development, crop production, weed science, plant pathology, plant biotechnology or plant physiology. Prerequisite: written consent of department head.	Sustainability Related
PLNT 7130 Topics in Plant Breeding and Genetics	Agricultural and Food Sciences	Plant Science	G	An in depth study of selected topics of current interest in the fields of plant breeding and genetics. Prerequisite: written consent of department head.	Sustainability Related
PLNT 7162 Plant Genomics	Agricultural and Food Sciences	Plant Science	G	Detailed analysis of advanced genomic techniques, experimental approaches, and progress in current plant genomic projects.	Sustainability Related
PLNT 7170 Advanced Plant Breeding	Agricultural and Food Sciences	Plant Science	G	Advanced training in modern methods of plant breeding. Prerequisite: PLNT 3520 or consent of instructor.	Sustainability Related
PLNT 7340 Advanced Weed Science	Agricultural and Food Sciences	Plant Science	G	Weed biology and ecology in the context of weed management, covering theory, current information, investigative approaches and experimental techniques. Topics explored include: weed population biology, modelling, weed community ecology, herbicide efficacy and herbicide resistant weeds. Prerequisite: PLNT 3540 or equivalent or consent of instructor.	Sustainability Related
PLNT 7480 Epidemiology of Plant Disease	Agricultural and Food Sciences	Plant Science	G	Lectures, seminars and discussions relating epidemiological principles to plant disease development and control. The course examines in depth the interrelationships of host, pathogen and environment. Measurement of epidemiological parameters is stressed in relation to disease assessment, disease forecasting and disease management.	Sustainability Related
PLNT 7660 Advanced Crop Production	Agricultural and Food Sciences	Plant Science	G	A lecture/seminar course to investigate environmental, crop management and genetic limitations to growth, yield formation, yield, water use efficiency and quality of field, forage and horticultural crops. Interactions will be stressed and emphasis will be placed on sustainable crop production systems. Simple and complex relationships will be demonstrated using models. Prerequisite: consent of instructor.	Sustainability Focused
PLNT 7670 Quantitative Genetics and Plant Breeding	Agricultural and Food Sciences	Plant Science	G	The theoretical basis of quantitative genetic variation. The genetic structure of plant breeding populations. Estimation, interpretation and use of genetic parameters in cross pollinated and self pollinated plant species. Variance components, genotype x environment interaction, inbreeding, heterosis, selection, heritability and combining ability. Prerequisites: PLNT 3520 and PLNT 4330 or consent of instructor.	Sustainability Related
POLS 1040 Global Political Issues	Arts	Political Studies	UG	Lab required. An investigation of the most pressing global issues facing the world today, including debates over globalization, the rise of transnational problems, and current theories about the future of the state.	Sustainability Related
POLS 2040 Introduction to International Relations	Arts	Political Studies	UG	(Formerly 019.204) An introduction to the analysis of international political action and interaction. The course examines the manner in which the foreign policies of states are formulated and the conflict, competition and cooperation produced by state interaction. Examples are drawn mainly from international events since 1945, with appropriate references to earlier periods. Students may not hold credit for POLS 2040 (019.204) and any of: POLS 2043 or POLS 2045 or the former POLS 2041 (019.204).	Sustainability Related
POLS 2043 Introduction à la politique globale I	Arts	Political Studies	UG	Introduction à l'analyse des actions et des interactions politiques au sein du système mondial. Analyse de la formation et des transformations des normes et du cadre institutionnel qui influencent les interactions entre les divers acteurs du système mondial : compétition, conflit et coopération. Analyse du processus d'institutionnalisation des asymétries de pouvoir au sein du système mondial sur la longue durée. On ne peut se faire créditer POLS 2043 et POLS 2040 (019.204) ou l'ancien POLS 2041.	Sustainability Related
POLS 2045 Introduction à la politique globale II	Arts	Political Studies	UG	Après des grandes traditions théoriques pour l'étude des actions et des interactions politiques internationales : idéalisme, réalisme et marxisme. Aperçu des transformations contemporaines des structures et dynamiques du système mondial : Sécurité, guerre, droit et institutions internationales et émergence des acteurs transnationaux. Préalable : POLS 2043. On ne peut se faire créditer POLS 2045 et POLS 2040 (019.204) ou l'ancien POLS 2041.	Sustainability Related
POLS 3160 Human Rights and Civil Liberties	Arts	Political Studies	UG	(Formerly 019.316) An examination of the foundations of modern human rights systems in liberal democracies. Topics addressed include the main philosophical arguments on human rights, dominant legal theories of rights, and international conventions and systems of human rights protection. Prerequisite: [a grade of "C" or better in one of: POLS 2510 (019.251) or POLS 2515 or the former POLS 2511 (019.251)] or written consent of instructor or department head.	Sustainability Related
POLS 3170 The Canadian Charter of Rights and Freedoms	Arts	Political Studies	UG	(Formerly 019.317) A systematic examination of the rights and freedoms contained in the Charter through Supreme Court decisions. Additional topics addressed include the historical, political and intellectual sources of rights protection in Canada and a review of Canadian human rights legislation. Prerequisite: [a grade of "C" or better in one of: POLS 2070 (019.207) or POLS 2071 (019.207)] or written consent of instructor or department head.	Sustainability Related
POLS 3200 International Security and Conflict Management	Arts	Political Studies	UG	(Formerly 019.320) A study of contemporary world conflict, conflict management, and issues of global security. Prerequisite: [a grade of "C" or better in POLS 2040 (019.204) or POLS 2045 or the former POLS 2041 (019.204)] or written consent of instructor or department head.	Sustainability Related

POLS 3220 Globalization and the World Economy	Arts	Political Studies	UG	(Formerly 019.322) An exploration of issues relating to globalization, including regionalism, economic structures and regimes, multinational corporations, global debt, problems in the developing world, and the future for leadership in the international system. Prerequisite: [a grade of "C" or better in POLS 2040 (019.204) or POLS 2045 or the former POLS 2041 (019.204)] or written consent of instructor or department head.	Sustainability Related
POLS 3240 Feminist Political Theory	Arts	Political Studies	UG	(Formerly 019.324) An examination of feminist approaches to the status and participation of women in political life. The course also includes feminist discourse on ethical issues and state policy.	Sustainability Related
POLS 3250 International Political Economy	Arts	Political Studies	UG	(Formerly 019.325) A survey of the relationship between political authority and the production and distribution of global wealth. Emphasis is placed on the historical development of international political economy, its fundamentals, as well as major theoretical perspectives. Students may not hold credit for both POLS 3250 (019.325) and POLS 3251 (019.325). Prerequisite: [a grade of "C" or better in POLS 2040 (019.204) or POLS 2045 or the former POLS 2041 (019.204)] or written consent of instructor or department head.	Sustainability Related
POLS 3621 Violence politique	Arts	Political Studies	UG	Causes et formes de la violence visant le changement politique, le contrôle de l'état, le renversement d'un régime ou la modification des frontières politiques. Analyse de la violence politique mobilisée par les acteurs étatiques et non-étatiques tant à l'intérieur qu'à l'extérieur des frontières nationales. Manifestations extrêmes de la violence politique : Guérillas, terrorisme et terrorisme d'État, émeutes, violence à caractère ethnique et religieux. Préalable : Une note minimale de C dans POLS 1500 ou dans POLS 1501 ou dans POLS 1503 et POLS 1505.	Sustainability Related
POLS 3710 Distributive Justice	Arts	Political Studies	UG	A study of the question of whether, and to what extent, inequalities of various kinds are compatible with the demands of both justice and community. This course examines contending answers to the question by investigating classical and/or contemporary theories of distributive justice. Prerequisite: a grade of "C" or better in POLS 2510 (019.251) or POLS 2515 or the former POLS 2511 (019.251).	Sustainability Related
POLS 3771 Organisations internationales: L'ONU et ses institutions spécialisées	Arts	Political Studies	UG	Étude du rôle et des fonctions joués par les organisations internationales au sein du système mondial. Analyse du système des Nations Unies et de ses diverses composantes en relation avec les mutations de la configuration des rapports de pouvoir au sein du système mondial. Appoints et limites des mécanismes assurant le principe de sécurité collective et la résolution pacifique des différends. Préalable : Une note minimale de B dans POLS 2040 ou POLS 2041 ou POLS 2043 et POLS 2045.	Sustainability Related
POLS 4200 Politics of Development	Arts	Political Studies	UG	A survey of the problems and prospects facing developing countries with a particular focus on the changes in international economic governance in the aftermath of the financial crisis and the role of the state in development and the political economy of emerging economies. Students may not hold credit for both POLS 4200 and POLS 4160 when titled "Politics of Development." Prerequisite: written consent of instructor or department head.	Sustainability Related
POLS 7530 International Political Economy	Arts	Political Studies	G	(Formerly 019.753) An examination of the systematic study of international political economy. Particular attention is paid to the foreign economic policies of advanced industrialized states and the various issues surrounding the redistribution of wealth and influence in the contemporary international system.	Sustainability Related
POLS 9390 UW POL 4200 Feminist Political Thought	Arts	Political Studies	G	Course may be taken as part of a Master of Public Administration program offered jointly with the University of Winnipeg.	Sustainability Related
POLS 9590 UW POL 4440 Seminar in Aboriginal Politics	Arts	Political Studies	G	Course may be taken as part of a Master of Public Administration program offered jointly with the University of Winnipeg.	Sustainability Related
PSYC 3130 Introduction to Health Psychology	Arts	Psychology	UG	This course offers a survey of psychological issues in health and illness. Major topics will include the biopsychosocial approach, mental models of illness, pain, stress and coping, healthdamaging and healthpromoting behaviours, and psychological issues in medical care. Students may not hold credit for PSYC 3130 and any of: PSYC 3131 or PSYC 3530 when titled "Health Psychology." Prerequisite: [a grade of "C" or better in PSYC 2540 or PSYC 2411 or PSYC 2421 or the former PSYC 2410 or the former PSYC 2420] or written consent of department head.	Sustainability Related
PSYC 4450 Animal Behaviour 1	Arts	Psychology	UG	(Formerly 017.445) The nature/nurture controversy will be discussed, followed by a survey of the diverse behaviours relating to the physical environment (e.g., food storage); predation (e.g. trapping); defence (e.g., camouflage); and migration. Prerequisite: written consent of department head.	Sustainability Related
PSYC 4560 Health Psychology	Arts	Psychology	UG	(Formerly 017.456) This course focuses on understanding how psychological factors contribute to the promotion and maintenance of good health, to the prevention and treatment of illness, and to recovery from or adjustment to existing illness. Prerequisite: written consent of department head.	Sustainability Related
PSYC 4562 Social Psychology and Health	Arts	Psychology	UG	This course uses theories and concepts from social/personality psychology to gain a better appreciation of what health is and how to achieve it, at the individual and population levels. Students may not hold credit for both PSYC 4562 and PSYC 4540 with the topic "Social Psychology and Health." Prerequisite: [a grade of "C" or better in one of: PSYC 2530 or PSYC 2531 or PSYC 2540 or PSYC 2411 or PSYC 2421 or PSYC 3130 or PSYC 3131 or the former PSYC 2410 or the former PSYC 2420 or the former PSYC 3450 or the former PSYC 3451] and written consent of department head.	Sustainability Related
PSYC 4564 Selfregulation and Health	Arts	Psychology	UG	This course examines how selfregulatory processes such as goalsetting and selfawareness can affect behaviours that promote or undermine human health. A wide range of healthrelated behaviours is considered such as smoking, exercise, safesex practices, and eating. Students may not hold credit for both PSYC 4564 and PSYC 4540 (017.454) with the topic "Selfregulation and Health." Prerequisite: written consent of department head.	Sustainability Related
PSYC 4566 Psychology of Health and Aging	Arts	Psychology	UG	This course considers how adults adapt to the challenges of aging and the accompanying health problems. Seminar discussions will focus on selected psychological theories and related empirical literature regarding belief systems that operate in the face of health and age related challenges. Students may not hold credit for both PSYC 4566 and PSYC 4540 (017.454) with the topic "Health and Aging." Prerequisite: written consent of department head.	Sustainability Related
PSYC 4620 Community Mental Health	Arts	Psychology	UG	(Formerly 017.462) A seminar covering contemporary issues in community mental health and their relation to psychological services. Topics include the history of the community mental health movement, deinstitutionalization as a social policy, the etiology and epidemiology of mental disorders, recognition of and response to mental disorders, mental health systems, communitybased mental health services, and prevention of mental disorders. Students may not hold credit for both PSYC 4620 (017.462) and PSYC 4540 (017.454) offered as Community Mental Health. Prerequisite: written consent of department head.	Sustainability Related
PSYC 7030 Learning and Cognitive Impairment	Arts	Psychology	G	(Formerly 017.703) An examination of cognitive and medical disorders that have a direct impact on learning, including disabilities, reading failure, mental retardation, Attention Deficit Hyperactivity Disorder, pervasive development disorders (e.g. autism), fetal alcohol syndrome, and cooccurring conditions. Effective compensatory interventions and social, behavioural and affective consequences will be emphasized. Prerequisite: permission of instructor required for nonSchool Psychology students.	Sustainability Related
PSYC 7040 Teaching Strategies, Learning Styles, and Academic Remediation	Arts	Psychology	G	(Formerly 017.704) Provides an overview of basic theories of learning as applied to effective classroom instruction. Knowledge of individual differences in learning and principles of best practices in classroom instruction will be applied to the development of effective and curriculum adaptations for students with specific academic problems. Prerequisite: permission of instructor required for nonSchool Psychology students.	Sustainability Related
PSYC 7080 Child/Youth Psychopathology	Arts	Psychology	G	(Formerly 017.708) Examines mental health conditions, covering a range of internalizing and externalizing disorders in children and youth. Biopsychosocial and ecological models, risk and resiliency, and developmental and cultural issues are examined. Structured and semi structured diagnostic interviews are reviewed. Prerequisite: permission of instructor required for nonSchool Psychology students.	Sustainability Related
PSYC 7160 CrossCultural Social Psychology	Arts	Psychology	G	Cross cultural psychology is the critical and comparative study of the linkages between cultural norms and thoughts, feeling and behaviour. This course focuses on Cross cultural Social Psychology. Therefore, the assigned readings deal with topics that Social Psychology in general examines.	Sustainability Related
PSYC 7180 Self-Regulation and Health	Arts	Psychology	G	This course examines how self regulatory processes such as goalsetting and self-awareness can affect behaviours that promote or undermine human health. A wide range of health related behaviours is considered such as smoking, exercise, safesex practices, and eating.	Sustainability Related
PSYC 7190 Social Psychology and Health	Arts	Psychology	G	This course considers health from a social psychological perspective. Weekly readings and discussion will focus on social cognitive processes and social influence processes that may mediate between stress and illness or may direct people's judgments of their health and choices of health related behaviours.	Sustainability Related
PSYC 7192 Psychology of Health and Aging	Arts	Psychology	G	This course considers how adults adapt to the challenges of aging and the accompanying health problems. Seminar discussions will focus on selected psychological theories and related empirical literature regarding belief systems that operate in the face of health and age related challenges. Students may not hold credit for both PSYC 7192 and PSYC 7310 (017.731) with the topic "Health and Aging."	Sustainability Related
PSYC 7300 Applied Behavior Analysis in Developmental Disabilities	Arts	Psychology	G	Students will read recent applied behavior analytic research in behavioral assessments and interventions for people with developmental disabilities, acquire skills to critically evaluate empirical evidence, and examine implications for practice. Students may not hold credit for both PSYC 7300 and PSYC 7310 with the topic "Research in Developmental Disabilities." Prerequisite: permission of instructor.	Sustainability Related
PSYC 7520 Ethics and Professional Issues in Clinical Psychology	Arts	Psychology	G	Study of professional issues in clinical psychology: historical development and present status of clinical psychology; what defines a profession; ethics codes, standards of practice, and legal requirements; training, internships, and accreditation; professional organizations, registration, and advocacy; employment in public and private sectors. Grading is Pass/Fail. Not to be held with the former PSYC 8070 (017.807). Prerequisite: permission of instructor required for nonclinical students.	Sustainability Related
PSYC 7660 Intergroup Relations	Arts	Psychology	G	This course examines intergroup relations from a social psychological perspective. Key topics include sources of prejudice and discrimination, the "target's" perspective, and strategies for reducing prejudice and discrimination. Activities may include participating in class discussions, giving presentations, and writing several short papers and a research proposal. Students may not hold credit for both PSYC 7660 and PSYC 7310 (017.731) when titled "Intergroup Relations."	Sustainability Related
PSYC 8040 Psychology of Aging	Arts	Psychology	G	An intensive review of current research and theory. Biological, psychological, and social aspects of aging are related to each other.	Sustainability Related
PSYC 8100 Social and Community Intervention	Arts	Psychology	G	A general introduction to community psychology and community mental health. Historical, conceptual, and philosophical underpinnings of community psychology and community mental health; community assessment and intervention; alternative approaches to contemporary social problems; understanding social policy and the role of the public sector; community research methods. Not to be held with the former PSYC 8170 (017.817). Prerequisite: permission of instructor required for nonclinical students.	Sustainability Related
PSYC 8110 Program Evaluation and Consultation	Arts	Psychology	G	An overview of program evaluation and consultation as major areas of applied psychological practice; analysis of contemporary social and health problems; development, implementation, and evaluation of human service programs; understanding human service organizations; the role of consultant and common types of consultation; ethical issues in program evaluation and consultation. Not to be held with the former PSYC 8180 (017.818). Prerequisite: permission of instructor required for nonclinical students.	Sustainability Related
PSYC 8200 Development and its Deviations 1	Arts	Psychology	G	(Formerly 017.820) Developmental deviations will be related to such factors as genetic influences, physiological development, early experiences, language, intellectual and mental abilities, social and ethnic influences, parent child interactions, and peer group interactions. Methods of special treatment will be considered. Prerequisite: permission of instructor required for nonclinical students.	Sustainability Related
REC 2650 The Social Aspects of Aging	Kinesiology and Recreation Management	Recreation Studies	UG	An examination of the social aspects of aging. Emphasis on understanding the aging process as a life transition involving adaptation through interaction with social and physical environments. This is an Option in Aging course and may not be held for credit with OES 2650 (051.265), HMEC 2650, O28.265, SWRK 2650, O47.265 or 123.265).	Sustainability Related
REC 3090 Sustainable NatureBased Tourism	Kinesiology and Recreation Management	Recreation Studies	UG	Analysis of the growth and development of sustainable naturebased tourism as a global and regional phenomenon. Particular emphasis will be placed upon the fundamental principles of sustainability, natural resource and visitor management for recreation, and the role of outdoor recreation and education in Sustainable Tourism Planning and Management. May not be held for credit with 123.309. Prerequisite: PERS 1300 (REC 1200 or 123.120) (C) and PERS 1400 (REC 1400 or 123.140) (C). Note: A fieldwork fee is attached to the course.	Sustainability Focused
REC 4090 Sustainable NatureBased Tourism Planning, Management and Research	Kinesiology and Recreation Management	Recreation Studies	UG	Building upon the changes to REC 3090 this course examines planning and management frameworks as they relate to sustainable naturebased tourism. The course examines the expansion of tourism as a global phenomenon and considers sustainable naturebased tourism as a community development process. In addition the role and importance of research in informing the tourism planning and management decision making processes is examined. May not be held for credit with 123.409 (123.430 or 123.432). Prerequisite: REC 3090 (123.309 or 123.330) (C). Note: A fieldwork fee is attached to the course.	Sustainability Focused
REC 4720 Wilderness Adventures	Kinesiology and Recreation Management	Recreation Studies	UG	Student will learn how to plan and participate in one or more wilderness adventure activities such as canoe tripping, sailing, kayaking, climbing, winter camping, etc. Students will also concentrate on conducting these activities safely with clients. It is hoped that this experience will positively affect future life sport and recreation activities. May not be held for credit with KIN 4720 or PHED 4720. A fieldwork fee is attached to the course.	Sustainability Related
REC 7060 Issues in Tourism	Kinesiology and Recreation Management	Recreation Studies	G	(Formerly 123.706) Contemporary issues and research related to travel behaviour and sustainable tourism. Prerequisite: instructor's permission.	Sustainability Focused
REHB 7050 Ergonomics	Rehabilitation Sciences	Medical Rehabilitation	G	(Formerly 068.705) This course shall examine the basic tenet of ergonomics, "the modification of the environment to meet the needs of the individual," and contrasted to "the adaptation of the individual to meet the constraints of the environment."	Sustainability Related
REHB 7070 Exercise Rehabilitation for Persons with Disabilities	Rehabilitation Sciences	Medical Rehabilitation	G	(Formerly 068.707) The student shall acquire a better understanding and increased knowledge of: the application of endurance exercise testing and training principles with disabled individuals; and the practical application of these skills.	Sustainability Related
RESP 2200 Primary Care in Respiratory Therapy	Rehabilitation Sciences	Respiratory Therapy	UG	This course provides an understanding of primary care in Respiratory Therapy practice as a method of supporting individuals and populations with respiratory disease. Students will learn the principles of health promotion and disease prevention, as well as chronic disease management and selfmanagement strategies. This course is restricted to students registered in year two of the Bachelor of Respiratory Therapy program who have completed all of the required courses for year one of the program.	Sustainability Related
RESP 3370 Clinical Education in Community Care	Rehabilitation Sciences	Respiratory Therapy	UG	(Formerly 169.337) Four weeks of clinical experience in community care settings including: prehospital care, health and wellness promotion, interfacility transport, chronic care, home care and community outreach. Course evaluated on a pass/fail basis. 180 hours.	Sustainability Related

RLGN 2060 Religion and Violence	Arts	Religion	UG	(Formerly 020.206) Violence of many kinds physical and nonphysical, by and against individuals, within and amongst religious groups plays an integral role in all religious traditions and systems. This course explores this role within the framework of an historical approach to world religions. Themes covered may include: theories of religion; sacrifice; martyrdom; symbolic violence; iconoclasm; blasphemy; heterodoxy and discipline; religious toleration; religious warfare; religion and cultural resistance; religion and domestic violence; religion and nonviolence.	Sustainability Related
RLGN 2180 Theory of Nature	Arts	Religion	UG	(Formerly 020.218) While the content of this course will vary year to year, its constant purpose will be to introduce students to some of the many ways in which "nature" has been theorized. The course will explore historical and cultural contexts in which selected theories of nature have developed. It will also explore implications of different theories of nature for environmental ethics.	Sustainability Related
RLGN 2590 Religion and Social Issues	Arts	Religion	UG	(Formerly 020.259) The course examines selected ethical/social issues such as abortion, euthanasia, new genetic and reproductive technologies, and environmental and ecological issues, with reference to one or more of the world's religious traditions. Students may not hold credit for both RLGN 2590 (020.259) and RLGN 2591 (020.259).	Sustainability Related
RLGN 2600 Critical Animal Studies: An Introduction	Arts	Religion	UG	This course will introduce students to "the animal" question that has emerged with such significance in recent decades, surveying some key theoretical and ethical issues under debate around the meaning of animality and the difference between human and animal life, and pointing to future challenges posed by "Critical Animal Studies" for the discipline of Religion.	Sustainability Related
SCM 4250 Beyond Business: Advanced Issues in Supply Chain Management	Management, I. H. Asper School of Business	Supply Chain Management	UG	The material covered in this course moves beyond a business perspective and analyzes the relationship between supply chain management (SCM) and other parts of society as a whole. It examines the issues that arise as supply chain management intersects with government and society. May not be held with the former SCM 4240 (or 164.424). Prerequisite: SCM 220 (D); or the former 164.230 (D); or consent of instructor.	Sustainability Related
SOC 1211 Introduction à la microsociologie	Arts	Sociology	UG	(L'ancien 077.121) Introduction systématique à la perspective sociologique: points de vue théorique, méthodes et domaines de recherche. On initiera l'étudiant(e) à l'étude de la socialisation, des groupes, de la famille, de l'école, des minorités, des rôles sexuels. L'étudiant(e) qui détient les crédits du SOC 1211 (077.121) ne peut se faire créditer aucun des cours SOC 1200 (077.120) ou SOC 1201 (077.120). Donné à Université de SaintBoniface.	Sustainability Related
SOC 2200 Sociology Through Film	Arts	Sociology	UG	Using film as a method, this course will be organized around the broad themes of social inequality and social justice. It will engage in a critical sociological analysis of issues such as health and well-being, poverty, gendered violence, globalization and contemporary culture.	Sustainability Related
SOC 2240 Sociology of Globalization	Arts	Sociology	UG	Explores various sociological theories of globalization, stratification, local/global linkages, transnational social movements, and migration, in order to grasp what globalization is, its extent, its driving forces, and its effects. Students may not hold credit for both SOC 2240 and SOC 3460 (077.346) when titled "Sociology of Globalization." Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or the former SOC 1201 (077.120)] or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)].	Sustainability Related
SOC 2260 Cities and Urban Life	Arts	Sociology	UG	A consideration of the social, cultural and urban processes and their relationship to urban life, with an emphasis on urban experience, sociality, and social inequality. Students may not hold credit for SOC 2260 and any of: SOC 2261 or the former SOC 2270 (077.227) or the former SOC 2271 (077.227). Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or the former SOC 1201 (077.120)] or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)].	Sustainability Related
SOC 2310 Selected Social Problems	Arts	Sociology	UG	(Formerly 077.231) An examination of one or more contemporary social problems, other than crime and delinquency. Issues that might be addressed include poverty, war, environment, licit and illicit drugs, and death and dying. Consult the Registration Guide or contact the instructor for specific content in any particular academic year. Students may not hold credit for both SOC 2310 (077.231) and SOC 2311 (077.231). Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or the former SOC 1201 (077.120)] or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)]. As the course content will vary from year to year, students may take this course more than once for credit.	Sustainability Related
SOC 2320 Canadian Society and Culture	Arts	Sociology	UG	(Formerly 077.232) A sociological analysis of Canadian institutions with reference to historical, cultural, economic, and political perspectives. Students may not hold credit for both SOC 2320 (077.232) and SOC 2321 (077.232). Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or the former SOC 1201 (077.120)] or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)].	Sustainability Related
SOC 2390 Social Organization	Arts	Sociology	UG	(Formerly 077.239) The process of ordering social life and the structures that result. Power, conflict, social control, bureaucracy, industrialization, urbanization, and centralization. Students may not hold credit for both SOC 2390 (077.239) and SOC 2391 (077.239). Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or the former SOC 1201 (077.120)] or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)].	Sustainability Related
SOC 2490 Sociology of Health and Illness	Arts	Sociology	UG	(Formerly 077.249) A general introduction to health sociology. The course examines health and illness as social concepts by exploring the personal and structural determinants of health status, and everyday health care practices in which people engage to maintain their health and to manage illness. Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or the former SOC 1201 (077.120)] or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)].	Sustainability Related
SOC 2620 The Sociology of Aging	Arts	Sociology	UG	(Formerly 077.262) An analysis of social and sociocultural aspects of aging and old age. An orientation to social gerontology and an overview of the situation of the elderly in Canada. Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or the former SOC 1201 (077.120)] or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)].	Sustainability Related
SOC 3350 Feminism and Sociological Theory	Arts	Sociology	UG	(Formerly 077.335) A critical examination of how gender has been addressed in classical and contemporary sociological theories, with consideration of how sociological inquiry is being transformed through feminist theory and practice. Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or SOC 2221 (077.222)] or written consent of department head.	Sustainability Related
SOC 3370 Sociology of Work	Arts	Sociology	UG	(Formerly 077.337) An examination of work as a central aspect of human social life; its changing nature and content in response to technological, political, and social change; how work is organized and understood by employers and workers; its consequences for individuals, social institutions, and society. Students may not hold credit for both SOC 3370 (077.337) and SOC 3371. Prerequisite: [a grade of "C" or better in SOC 1200 or the former SOC 1201 (077.120) or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)].	Sustainability Related
SOC 3380 Power, Politics and the Welfare State	Arts	Sociology	UG	A critical evaluation of sociological theory and research focusing on power and politics in society. Topics covered include: the dimensions of power (economic, political, ideological), classes and class conflict, political socialization, the origin and nature of the state, and the welfare state. Students may not hold credit for both SOC 3380 and any of: SOC 3471 (077.347) or the former SOC 3470 (077.347). Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or SOC 1201 (077.120)] or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)] or written consent of department head.	Sustainability Related
SOC 3450 Sociological Perspectives on the Social Determinants of Health	Arts	Sociology	UG	This course will apply a sociological perspective to a critical and theoretically informed study of the social structures influencing personal and population health, including intersections of class, gender, ethnicity, and aging as sources of health inequities. Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or the former SOC 1201 (077.120)] or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)].	Sustainability Related
SOC 3471 Sociologie politique	Arts	Sociology	UG	(L'ancien 077.347) Evaluation critique de la théorie et des recherches sociologiques relatives aux rapports de force dans la société. Ce cours traitera des divers aspects du pouvoir (économique, politique, idéologiques), des conflits de classe, de la socialisation, de l'origine, des fonctions et de l'évolution de l'État. L'étudiant(e) ne peut se faire créditer à la fois le SOC 3471 (077.347) et le SOC 3470 (077.347). Prélabile: [une note minimale de C dans le SOC 1200 (077.120) ou le SOC 1201 (077.120)] ou [une note minimale de C dans tous les deux SOC 1211 (077.121) et SOC 1221 (077.122)]. Donné à Université de SaintBoniface.	Sustainability Related
SOC 3540 The Sociology of Health Care Systems	Arts	Sociology	UG	(Formerly 077.354) An analysis of the social organization of formal and informal health care, including topics such as professionalism and health care, the nature of therapeutic relationships, institutional vs. community-based care, social reform and health care policy, medicine and the state, and emerging patterns of health care. Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or the former SOC 1201 (077.120)] or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)]. SOC 2490 (077.249) is recommended.	Sustainability Related
SOC 3660 Sociology of Mental Illness	Arts	Sociology	UG	(Formerly 077.366) A study of the social processes involved in becoming and being mentally ill. Topics such as the public imagery of madness, decisionmaking rules in psychiatry, life in the mental hospital, and community attitudes toward the mentally ill will be considered. Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or the former SOC 1201 (077.120)] or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)]. SOC 2490 (077.249) is recommended.	Sustainability Related
SOC 3730 Society and Education	Arts	Sociology	UG	(Formerly 077.373) A critical examination of schools at all levels and the challenges they face. Issues such as, curriculum, classroom interaction, gender, race, class and equality of educational opportunities will be explored. The course should be useful to students interested in careers in education and counselling. Students may not hold credit for both SOC 3730 (077.373) and SOC 3731 (077.373). Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or the former SOC 1201 (077.120)] or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)].	Sustainability Related
SOC 3790 Women, Crime and Social Justice	Arts	Sociology	UG	(Formerly 077.379) The course examines gender differences in crime, theories of women's crime and the treatment of women offenders and victims by the criminal justice system. Prerequisite: [a grade of "C" or better in SOC 2510 (077.251) or SOC 2511 (077.251)] or written consent of department head.	Sustainability Related
SOC 3810 Sociological Perspectives on Gender and Sexuality	Arts	Sociology	UG	(Formerly 077.381) An exploration of the relations between men and women in contemporary society. This course will use historical and crosscultural standpoints to examine the social construction of gender and sexuality, and the ideological and material structures which (re)produce gender difference. Students may not hold credit for both SOC 3810 (077.381) and SOC 3811 (077.381). Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or the former SOC 1201 (077.120)] or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)].	Sustainability Related
SOC 3838 Ecology and Society	Arts	Sociology	UG	Examines changing patterns of social organizations of civilizations, the resultant social constructions of the human/nature interface, the human social contribution to the global ecological crisis, and possible strategies to create sustainable societies. Considerations of topics such as population, consumption, capitalism, and agricultural practices. Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or the former SOC 1201 (077.120)] or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)].	Sustainability Focused
SOC 3840 Community and Social Reconstruction	Arts	Sociology	UG	(Formerly 077.384) An examination of the changing relationships between the global economic market, the declining resource base of the nation state, and the shift to local control within civil society. Topics may include: the central role of the household in civil society, the informal sector, local initiatives (e.g., cohousing, cooperative, land trusts), and community development. Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or the former SOC 1201 (077.120)] or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)].	Sustainability Related
SOC 3871 Inégalités sociales	Arts	Sociology	UG	Présentation des inégalités sociales dans la société capitaliste actuelle. Examen critique des explications proposées au sujet des diverses dimensions de l'inégalité sociale telles que : la classe sociale d'appartenance, les rôles sexuels et l'appartenance ethnique. Discussions au sujet de la pauvreté, de la répartition sociale, de la richesse, du chômage, de l'évolution des postes et des contextes de travail à l'ère de la mondialisation. On ne peut se faire créditer SOC 3871 et l'ancien SOC 3870 ou SOC 3890. Prélabiles : une note minimale de C dans SOC 1201 ou SOC 1200 ou SOC 1211 et SOC 1221.	Sustainability Related
SOC 3890 Power and Inequality in Comparative Perspective	Arts	Sociology	UG	Engaging in a cross-temporal and crossnational investigation, this course critically surveys classical and contemporary debates around the inevitability of social inequality, and explores the ways that inequalities have been reproduced and rationalized, or attenuated and challenged, throughout human history. Key facets and indicators of inequality (such as poverty, homelessness, social exclusion and the distribution of income and wealth) and their relation to central axes of social inequality (class, gender, race/ethnicity and age) are considered. Put simply, this course is concerned with "who gets what and why?" Students may not hold credit for SOC 3890 and any of: SOC 3871 (077.387) or the former SOC 3870 (077.387). Prerequisite: [a grade of "C" or better in SOC 1200 (077.120) or SOC 1201 (077.120)] or [a grade of "C" or better in both SOC 1211 (077.121) and SOC 1221 (077.122)].	Sustainability Related
SOC 4490 Advanced Seminar in Criminology	Arts	Sociology	UG	A critical examination of the field of criminology and the work of criminologists in shaping modern sensibilities about crime, law, and social justice. Topics include the origins of modern criminology, the development of competing knowledge frameworks in criminology (including the impact of feminist, post-modern, and post-colonial criminologies), and trajectories of 21st century criminology (including scientific, global, and public criminology). Prerequisite: written consent of department head.	Sustainability Related
SOC 7110 Seminar in Sociology of Religion	Arts	Sociology	G	(Formerly 077.711) A comparative and analytical study of religion with particular reference to such areas as integration, change, ideology, value orientation, normative structures, social class, intergroup relations, personality systems.	Sustainability Related
SOC 7120 Seminar in Sociology of Education	Arts	Sociology	G	(Formerly 077.712) An analytical treatment of the influence of education, as a basic social institution, on society's functions in socialization, change, control, social mobility, social progress, etc. and the influence of society on the organization, content, and goals of education.	Sustainability Related
SOC 7310 Seminar in Intergroup Relations	Arts	Sociology	G	(Formerly 077.731) This seminar will provide an opportunity for detailed study of intergroup (religious, racial, and ethnic) relations in contemporary Canadian society. As the course content will vary from year to year, students may take this course more than once for credit.	Sustainability Related
SOC 7480 Social Inequality	Arts	Sociology	G	(Formerly 077.748) A critical examination of classical and contemporary theories and current empirical research concerned with various dimensions of social inequality (such as class, gender and race) and social stratification from a comparative perspective.	Sustainability Related
SOC 7490 Globalization	Arts	Sociology	G	(Formerly 077.749) A sociological examination of the globalization of trade, production and finance, including the creation of multilateral trading blocs (e.g., APEC, EU, NAFTA) and international organizations (e.g., WTO, IMF, the World Bank) and their impact upon social inequality, the welfare state and the environment in developed and developing nations.	Sustainability Related
SOIL 0420 Soil Productivity and Land Use	Agricultural and Food Sciences	Soil Science	UG	(Formerly 040.042) Soil classification systems; soils of Manitoba and their properties; soil productivity and its maintenance; soil fertility and testing; fertilizer recommendations; environmental concerns. Prerequisite: DAGR 0420 (or 065.042).	Sustainability Related



SOIL 0620 Soil Conservation and Management	Agricultural and Food Sciences	Soil Science	UG	(Formerly 040.062) Land capability for agriculture; storage, use of water and water use efficiency; saline and alkaline soils; soil acidity; soil erosion and conservation; tillage, cropping systems and rotations; fate of biosolids, pesticides. Prerequisite: SOIL 0420 (or 040.042).	Sustainability Related
SOIL 3060 Introduction to Agrometeorology	Agricultural and Food Sciences	Soil Science	UG	(Formerly 040.306) Basic description and discussion of properties of the atmosphere, radiation, temperature, effect of temperature on plant growth, climate and animal response, water, evapotranspiration, insect adaptation, activity in relation to climate, climatic data.	Sustainability Related
SOIL 3520 Pesticides: Environment, Economics and Ethics	Agricultural and Food Sciences	Soil Science	UG	(Formerly 040.352) A comprehensive examination of the benefits and risks of pesticide use. Topics include: Characteristics of pesticide products and formulations used in Western Canada; History, practice, successes and failures in the use of pesticides in agriculture; Pesticide use for protecting human health; Pesticide fate processes in air, soil and aquatic environments; Economic and environmental impact of pesticide application drift; Atmospheric pesticide contamination; Pesticide surface and groundwater contamination; Pesticide toxicity to organisms, including humans; Pesticide residues in food; Pesticide regulations; Pesticide risk indicators; Alternatives to pesticides. Not to be held with 040.411, 038.454 or 040.454.	Sustainability Related
SOIL 3600 Soils and Landscapes in Our Environment	Agricultural and Food Sciences	Soil Science	UG	(Formerly 040.360) Discover why soil is an essential resource. Explore the roles of soils and landscapes within natural and agricultural ecosystems by learning the fundamental biological, chemical and physical properties and processes; soil and landscape classification and evaluation. Not to be held with 040.350 or 040.351.	Sustainability Related
SOIL 3610 Field Methods in Land Resource Science	Agricultural and Food Sciences	Soil Science	UG	This course provides students with training in field methods used in soil science and related sciences (hydrology, meteorology, ecology, geomorphology, and environmental science). Students participate in a biophysical survey of a field site and in a study of the management, assessment and monitoring of land resources. Prerequisite: SOIL 3600	Sustainability Related
SOIL 4400 SOIL ECOLOGY	Agricultural and Food Sciences	Soil Science	UG	Explore the application of soil biology to diversity in agro ecosystems, response of soil organisms to management, mediation of important environmental issues, and promotion of human health. Appreciate the vast array of soil organisms and their functions in soil ecosystems, understand cycling of nutrients by soil organisms, and discover quantitative methodology in determining soil biochemical processes. The laboratory provides hands-on experience in observing, quantifying and isolating soil organisms and the biochemical processes they conduct. Prerequisite: AGEC 2370 or Biol 2300 or SOIL 3600.	Sustainability Related
SOIL 4500 Remediation of Contaminated Land	Agricultural and Food Sciences	Soil Science	UG	(Formerly 040.450) Physical, chemical and biological approaches to remediation of land including: nature of contaminants, procedures for assessing the extent of the impact, consequences to the environment, approaches to remediation and case studies of contaminant remediation. Prerequisite: SOIL 3600 (or 040.350 or 040.351) or consent of the instructor.	Sustainability Related
SOIL 4510 Soil and Water Management	Agricultural and Food Sciences	Soil Science	UG	(Formerly 040.451) Topics include: capability of land for agriculture; storage, movement and use of water; saline and alkaline soils; soil conservation including erosion; sustainability of soil organic matter; effect and fate of soil amendments. Prerequisite: SOIL 3600 (or 040.360) or 040.350 or 040.351.	Sustainability Focused
SOIL 7170 Agricultural Micrometeorology	Agricultural and Food Sciences	Soil Science	G	Discussion of mass and energy transport in the boundary layer, evaporation and transpiration of water, light absorption and transmission of carbon dioxide in plant canopies and climate change impacts on micrometeorological processes. Prerequisite: SOIL 3060 and/or consent of instructor.	Sustainability Related
SOIL 7180 Environmental Chemistry of Pesticides and Related Compounds	Agricultural and Food Sciences	Soil Science	G	Pesticide chemodynamics, biological and nonbiological transformations of pesticides in water, soil and biota, bioaccumulation and food chain distribution of pesticides and related xenobiotics and environmental fate models will be discussed. Prerequisite: Consent of instructor.	Sustainability Related
SOIL 7270 Advanced Soil Ecology	Agricultural and Food Sciences	Soil Science	G	Examine the role of soil organisms and their communities in decomposition, elemental cycling, and pathogen/pest suppression in managed and natural soil systems. Understand methods of studying biochemical activity and communities in soil. Take a specific research topic of choice and develop an understanding of the organisms and communities, environmental controls of key biological processes involved and apply your knowledge to resolving a specific research issue.	Sustainability Related
SPAN 2591 Femmes et culture en Espagne et en Amérique latine	Arts	French, Spanish and Italian	UG	Panorama de la culture latinoaméricaine abordée à partir de la production féminine. Étude des oeuvres des femmes, de leurs conditions de production dans une perspective féministe et dans le cadre théorique des études culturelles. Panorama incluant divers pays et diverses époques, ainsi que différents types de production (littérature, cinéma, peinture et sculpture). Préalable: une note minimale de C dans SPAN 1262 (SPAN 1261, TRAD 1261 ou 122,126), l'ancien SPAN 1260 (044,126), SPAN 1280 ou SPAN 1290 ou l'autorisation écrite de la professeure ou du professeur.	Sustainability Related
SWRK 1310 Introduction to Social Welfare Policy Analysis	Social Work	Social Work	UG	(Formerly 047.131) Examination of social welfare policy as the end product of ideologies. Introduction of elements of ideology and the comparison of competing ideological systems. The relationship of economic, political and ethical views of society and their manifestations in social responses to human need and social services. Students may not hold credit for both SWRK 1310 (or 047.131) and the former 047.130.	Sustainability Related
SWRK 2050 Community and Organizational Theory	Social Work	Social Work	UG	(Formerly 047.205) Deals with concepts such as conflict and power which relate social work practice to the nature of secondary human relationships. These are applied to the dynamics within and between communities and organizations.	Sustainability Related
SWRK 2090 Human Behaviour and Social Work Practice	Social Work	Social Work	UG	(Formerly 047.209) Students are introduced to a broad range of theories and will develop an understanding of how people and environments reciprocally affect each other. Particular emphasis is placed on understanding how gender, race, ethnicity, socioeconomic factors, age, ability, and sexual orientation contribute to and influence human behaviour throughout the lifespan.	Sustainability Related
SWRK 2110 Emergence of the Canadian Social Welfare State	Social Work	Social Work	UG	(Formerly 047.211) An examination of the emergence of the Canadian welfare state from its various colonial inheritances to the Canada Assistance Plan. Social, political, economic, religious, geographical, demographic and cataclysmic factors influencing the development of the welfare state are examined and analyzed. Prerequisite: SWRK 1310 (or 047.131). Students may not hold credit for both SWRK 2110 (or 047.211) and the former 047.130.	Sustainability Related
SWRK 2130 Comparative Social Welfare Systems	Social Work	Social Work	UG	(Formerly 047.213) The welfare systems of three modern societies are examined and compared. Economic, political, social, religious, geographical, demographic and cataclysmic factors influencing the development of the various models of social provision are analyzed for their significance to the Canadian welfare system. Prerequisite: SWRK 1310 (or 047.131). Students may not hold credit for both SWRK 2130 (or 047.213) and the former 047.130.	Sustainability Related
SWRK 2650 The Social Aspects of Aging	Social Work	Social Work	UG	(Formerly 047.265) An examination of the social aspects of aging. Emphasis on understanding the aging process as a life transition involving adaptation through interaction with social and physical environments. Students may not hold credit for REC 2650 (or 123.265) and IDEES 2650 (or 051.265) or HMEC 2650 (or 028.265) or SWRK 2650 (or 047.265). (A required Option in Aging course)	Sustainability Related
SWRK 3130 Contemporary Canadian Social Welfare	Social Work	Social Work	UG	(Formerly 047.313) An examination of social welfare in Canadian society, leading to an evaluation of present approaches in the light of changing economic and social conditions and changing needs. Prerequisite: SWRK 1310 (or 047.131). Students may not hold credit for both SWRK 3130 (or 047.313) and the former 047.301.	Sustainability Related
SWRK 4080 Current Issues in Social Welfare	Social Work	Social Work	UG	(Formerly 047.408) Study of a particular area of social welfare to improve policies and practices. Students may select one seminar from several which are offered. These may vary from year to year.	Sustainability Related
SWRK 4120 Field Instruction 2	Social Work	Social Work	UG	(Formerly 047.412) A second educationally directed practice experience building on SWRK 3150 (or 047.315) in which the student will have the opportunity to carry a sustained professional role in situations which require the integration of values, knowledge, and skill at the level of a beginning professional practitioner. While Access Programs may require additional field hours, 420 hours is the minimum required for all BSW students. This time commitment includes involvement with the agency in planning for, and engaging in, practice activity, and evaluation of performance. It also includes educational contact time with the field instructor in individual and/or group sessions. Subject to satisfactory completion and reports, students will be graded on a pass/fail basis. Prerequisites: 6 credit hours of SWRK 4200 (or 047.420), and SWRK 3150 (or 047.315), and consent by course instructor (Field Coordinator). Corequisite: 6 credit hours of SWRK 4300.	Sustainability Focused
SWRK 4210 Feminist Perspectives on Social Work Practice and Social Welfare Policy	Social Work	Social Work	UG	(Formerly 047.421) An analysis of social work practice and welfare policy from a feminist perspective. Course emphasizes the integration of social work intervention with policy in the social welfare context and overlays concepts such as empowerment, ecological practice, oppression, and practice in context of cultural diversity. Prerequisites: SWRK 1310 (or 047.131), SWRK 2080 (or 047.208), SWRK 2090 (or 047.209), and SWRK 3140 (or 047.314). Students may not hold credit for both SWRK 4210 (or 047.421) and SWRK 4170 (or 047.417) or SWRK 4210 (or 047.421) and SWRK 4190 (or 047.419).	Sustainability Related
SWRK 6020 Social Work Practice Seminar	Social Work	Social Work	G	(Formerly 047.602) Introduces students to ecological and other generalist practice models in the provision of social services. Attention is given to key contextual aspects of social work practice such as gender, poverty, and culture in the study of professional roles and ethics. Intervention modalities considered range from direct practice with individuals to strategies of community change.	Sustainability Related
SWRK 7640 Application and Critique of Theory and Research in Social Work Practice with Individuals and Families	Social Work	Social Work	G	Using supervised practice experiences, this course develops advanced skills for assessment, intervention, and evaluation of direct practice with individuals and families within the context of social work's commitment to addressing social injustice. The course will extend over two terms. Pre/corequisites: SWRK 7630 and SWRK 7300.	Sustainability Related
SWRK 7650 Advanced Social Work Practice with Groups	Social Work	Social Work	G	This course will increase students' knowledge and skill in reflexive social work practice with groups in a broad range of health and social service settings.	Sustainability Related
SWRK 7700 Grounding Our Foundation in Indigenous Knowledges and Social Work	Social Work	Social Work	G	This course provides a general overview of Indigenous approaches to healing and helping. Connections to social work practice/policy are identified. The course is focused on experiential and participatory learning and involves a 5-day intensive retreat. Students will be graded on a pass/fail basis.	Sustainability Related
SWRK 7710 Remembering Our Histories	Social Work	Social Work	G	This course will set a foundation for understanding historical perspectives of Indigenous knowledges in relation to social work. Raise awareness of traditional and spiritual; connections to languages, families, communities, nations, and lands to establish an understanding of "relationship" in Indigenous ways of being. Students will be graded on a pass/fail basis.	Sustainability Related
SWRK 7720 Critical Theory and Indigenous Peoples	Social Work	Social Work	G	This course will review critical social theories with primary focus on colonialism and social justice, in relation to social work. Anticolonialism, antioppressive approaches, feminist approaches and other critical perspectives, in relation to Indigenous Peoples, will be examined from Indigenous perspectives. May not hold with SWRK 7600.	Sustainability Related
SWRK 7730 Indigenous Research Methodologies and Knowledge Development	Social Work	Social Work	G	This course will examine research epistemologies and methodologies based in Indigenous ontologies and social experiences in the context of social work research with Indigenous Peoples. The course will present the influences of colonization, Indigenism, and decolonization on knowledge development.	Sustainability Related
SWRK 7740 Indigenous Peoples, Identity, and Social Work	Social Work	Social Work	G	This course will give students an understanding of how they see themselves and how their relationships at individual, family, clan, community, and nation levels contribute to identity development. It deepens understanding of how people view themselves and react in contemporary contexts. Students will be graded on a pass/fail basis.	Sustainability Related
SWRK 7750 Indigeneity, Power, Privilege, and Social Work	Social Work	Social Work	G	This course will examine identity development influenced by gender, ethnicity, Indigeneity, internalized oppression, aboriginalism, internalized domination, whiteness, white privilege, racism, and in relation to social policies and social work practice with individuals, families, communities, and nations.	Sustainability Related
SWRK 7770 Social Challenges and Indigenous Helping Practices	Social Work	Social Work	G	This course will teach students how Indigenous Elders, traditional teachers and/or medicine people identify, interpret and meet current social challenges. The course looks at how positive identities and relationships are fostered through traditional Indigenous helping practices and how they currently inform social work. Students will be graded on a pass/fail basis.	Sustainability Related
SWRK 7780 Social Work, Social Challenges, and Indigenous Peoples	Social Work	Social Work	G	This course will present challenges Indigenous peoples face through issues of critical theories, particularly decolonization and social justice. It reviews social policies and social work practices affecting Indigenous peoples, including those of Indigenous organizations that centre Indigenous perspectives. Prerequisite: SWRK 7750.	Sustainability Related
SWRK 7800 Indigenism	Social Work	Social Work	G	This course will focus on Indigenous knowledges shared through group participation in Indigenous helping practices. It looks at how these practices could be supported by social workers in communities and organizations for people facing social challenges. Students will be graded on a pass/fail basis.	Sustainability Related
SWRK 7810 AntiColonial Social Work	Social Work	Social Work	G	This course will focus on design and participation in community service and research projects. This course will challenge the student to include reflection, application, and evaluation of critical social work knowledge and research on how the student project (s) and/or action(s) contribute to development of anticolonialism, social justice, and Indigenism.	Sustainability Related
SWRK 8010 Perspectives on Knowledge for Social Work	Social Work	Social Work	G	A seminar focusing on the definition, development, legitimization, and transmission of knowledge for social work practice. A range of approaches will be discussed including scientific approaches (logical positivism), postmodern approaches, indigenous and culturally based approaches, and critical approaches.	Sustainability Related
SWRK 8020 Development of the Social Work Profession	Social Work	Social Work	G	A seminar focusing on the development of social work from mainstream and marginalized people's perspectives (including Aboriginal people and women), and its relationship to current professional issues. Histories, ideological, economic, theoretical, and political factors will be considered in examining selected fields of practice.	Sustainability Related
SWRK 8100 Social Work Past and Present: Trends, Institutions and Practices	Social Work	Social Work	G	Development of Social Work in Canada, with international comparisons, through examination of social processes and intellectual trends shaping the profession, such as colonization, Indigenous issues, feminism, neoliberalism and globalization, and highlighting of practices, methods and models. Cannot be held with SWRK 8020.	Sustainability Related
TRNS 0210 Transportation Policy & Regulation	Management, I. H. Asper School of Business	Transport Institute	UG	Introduction to the social, cultural, political and economic forces that influence transportation policy and regulation; the historical examination of transportation policy; the effects of subsidies, taxation, and regulation on the structure, behaviour and performance of transportation and logistics industries, and to develop an appreciation for current transportation policy trends in Canada.	Sustainability Related
TRNS 0310 Economic Applications in Transportation	Management, I. H. Asper School of Business	Transport Institute	UG	Introduction to the concepts and applications of economic theory as applied to transportation with emphasis on the costs determining transportation supply under competitive and regulated freight rates: an examination of the front haul/back haul problem and the role of trade in determining the derived demand for transportation; and to demonstrate the interrelation between transportation and economic development.	Sustainability Related

TRNS 0320 Legal Issues in Transportation	Management, I. H. Asper School of Business	Transport Institute	UG	A review of Federal and Provincial statutes governing the establishment and operational requirements of transport services; to develop and understand the historical, constitutional and regulatory issues in the development of Canada's transportation systems; a review of the rights and liabilities of carriers and transport authorities; to develop an understanding of the procedures including dispute and appeal mechanisms, available to shippers and carriers before various transport agencies and boards.	Sustainability Related
TXSC 1610 Textiles, Product, and Consumers	Agricultural and Food Sciences	Textile Sciences	UG	(Formerly 064.161) This course covers the structure and characteristics of the natural and manufactured fibre sectors; downstream industries which transform natural or manufactured fibres into intermediate goods; the manufacturing industry which transforms intermediate supplies to final products; and the retailing industry which distributes final textile products to consumers or organizations.	Sustainability Related
TXSC 2600 Textiles for Apparel End Uses	Agricultural and Food Sciences	Textile Sciences	UG	(Formerly 064.260) Theories of product development and their applications to creating textile products for apparel end uses including fashion apparel; apparel for consumers throughout the lifespan, including childhood, young adults, older adults; apparel for consumers with disabilities; apparel for professional sports and recreation; and apparel for the healthcare sector. Prerequisites: [064.102] or [a minimum grade of C in TXSC 1600 (064.160) and TXSC 1610 (064.161) and 3 credit hours of 1000level chemistry].	Sustainability Related
TXSC 2610 Textiles for Non Apparel End Uses	Agricultural and Food Sciences	Textile Sciences	UG	(Formerly 064.261) Product development theories from engineering and management perspectives to illustrate the development of textile fibres, fabrics, and products for the industrial and healthcare sectors. Industrial uses of textiles include the automotive and the aerospace industries. End uses for the healthcare sector include textiles or textile products for rehabilitation, protection from bacteria, healing of wounds, and implantable textiles. Assessment of selected fabric properties such as strength, flammability, colourfastness and air permeability will be introduced. Prerequisites: [064.102] or [a minimum grade of C in TXSC 1600 (064.160) and TXSC 1610 (064.161) and 3 credit hours of 1000level chemistry].	Sustainability Related
TXSC 3500 Textiles for the Healthcare Sector	Agricultural and Food Sciences	Textile Sciences	UG	(Formerly 064.350) This course covers the recent developments of a range of technical textiles for the healthcare sector, including implantable textiles, barrier fabrics, and smart textiles. Prerequisite: TXSC 2610 (064.261) and [HMEC 2050 (028.205) or any 2000level or 3000level research method course] and CHEM 1000 (001.100) or CHEM 1300 (002.130). Not to be held with 064.347 which was offered from September 2004 to September 2005/2006.	Sustainability Related
TXSC 3600 Global Apparel and Textiles Trade	Agricultural and Food Sciences	Textile Sciences	UG	(Formerly 064.360) Covers the role of apparel and textiles trade in economic growth and development of industrialized, transitional, and developing nations. It will take into account the evolution of trade relations among apparel and textile producing countries and regions. Prerequisite: [TXSC 2610 (064.261) and ECON 1200 (018.120) or ECON 1210 (018.121) and [ECON 1220 (018.122)] and [HMEC 2000 or HMEC 2050 (028.205)]. Not to be held with the former 064.340.	Sustainability Related
TXSC 4500 Advanced Textiles for the Healthcare Sector	Agricultural and Food Sciences	Textile Sciences	UG	Covers the latest developments in technical textiles for the healthcare sector and the measurement of attributes which are essential to the performance of textiles for medical or healthcare end uses. Prerequisites: A grade of "C" or better in: [TXSC 2600 (064.260)] and [TXSC 2610 (064.261)] and [TXSC 3620 (064.362)] and [TXSC 3500 (064.350)].	Sustainability Related
TXSC 4630 Quality Assurance Systems	Agricultural and Food Sciences	Textile Sciences	UG	Covers the concept of total quality management; the role of total quality management in apparel and textiles; the role of standard setting agencies in developing standards of product and service quality; management systems such as ISO 9000 and case studies of textiles and apparel firms which have adopted these systems. Students will learn by solving a series of problems presented to them in the format of case studies. Prerequisites: TXSC 3650 and TXSC 4620. Not to be held with 064.220 or 064.221 or 064.337.	Sustainability Related
UCA 0302 Heads & Chairs: Challenges in Academic Leadership	Extended Education	CHERD	UG	This workshop is dedicated to helping Chairs/Heads reflect together on the challenges, opportunities and responsibilities of this critical role in universities and colleges. Topics include the changing academic culture, leadership in a collegial environment, faculty development, the legal structure of the university and rights and responsibilities and fostering a teaching culture.	Sustainability Related
UCA 0306 Senior University Administrators Course	Extended Education	CHERD	UG	An advanced management course for experienced administrators responsible for making institutional policy, including presidents, directors, principals, vicepresidents, provosts, associate vicepresidents, treasurers, comptrollers, registrars, chief librarians, deans and senior directors of services. The curriculum examines legal issues and institutional policies, power and influence in the organization, restructuring issues, resource management, negotiation and conflict management, and the changing leadership role.	Sustainability Related
UCA 0308 University Management Course	Extended Education	CHERD	UG	A management course for administrators of academic and administrative units with direct responsibility for recommending and implementing policy, including department heads, chairs, associate deans, managers, directors of services and executive assistants. The curriculum examines human rights, administrative and contract law, financial management and planning, human resource management and conflict resolution.	Sustainability Related
WOMN 1500 Introduction to Women's and Gender Studies in the Humanities	Arts	Women's and Gender Studies	UG	Examination of the central concerns of women and gender in the Humanities. A focus on representation, voice, knowledge, and subjectivity. Students may not hold credit for both WOMN 1500 and the former WOMN 1530 (156.153).	Sustainability Related
WOMN 1600 Introduction to Women's and Gender Studies in the Social Sciences	Arts	Women's and Gender Studies	UG	Examination of women's historical and contemporary roles in the economy, family, and society from the perspective of the social sciences. Introduction of feminist theories, with emphasis on the role of gender. Topics covered focus on the social conditions of women's lives: work, health, violence and organizing for change. Students may not hold credit for both WOMN 1600 and the former WOMN 1540 (156.154).	Sustainability Related
WOMN 2000 Feminist Thought	Arts	Women's and Gender Studies	UG	Survey of the varieties of historical and contemporary feminist ideas. Students may not hold credit for both WOMN 2000 and the former WOMN 2520 (156.252). Prerequisite: [a grade of "C" or better in a minimum of three credit hours of Women's and Gender Studies courses] or written consent of the Women's and Gender Studies coordinator.	Sustainability Related
WOMN 2500 Race, Class and Sexuality	Arts	Women's and Gender Studies	UG	(Formerly 156.250) An exploration of the various ways race, class, and sexual orientation impact on women's lives and identities. Focus is on how racism, classism and heterosexism are produced and reproduced both within and outside of the feminist movement. Prerequisite: [a grade of "C" or better in a minimum of three credit hours of Women's and Gender Studies courses] or written consent of the Women's and Gender Studies coordinator.	Sustainability Related
WOMN 2510 Women and Education	Arts	Women's and Gender Studies	UG	(Formerly 156.251) An examination of school knowledge and organization as they affect the experiences of girls and women as students and teachers. Includes an exploration of the interaction between schooling and women's work as mothers, and between education and femininity.	Sustainability Related
WOMN 2560 Women, Science and Technology	Arts	Women's and Gender Studies	UG	(Formerly 156.256) An overview of women's historical and contemporary participation in science, issues in science and math education, feminist critiques and theories on science and gender, and the impact of technology on women's lives.	Sustainability Related
WOMN 2600 Sex, Gender, Space and Place	Arts	Women's and Gender Studies	UG	An examination of how we use places and spaces in our everyday lives to produce and maintain social differences of gender, sexuality, race, class, and citizenship. Drawing on perspectives from feminist geography and history, this course explores ideas about places (for example, homes) and spaces (for example, regions), as well as historical claims that women belong in place but men should control space. Students may not hold credit for both WOMN 2600 and WOMN 2540 (156.254) with the topic "Sex, Gender, Space and Place."	Sustainability Related
WOMN 2610 Gender, Transport and Social Justice	Arts	Women's and Gender Studies	UG	Examines the gendered impact of uneven access to transportation. Using feminist theories of gender and mobility, it considers claims that mobile women are in danger, and that different forms of transportation have gendered cultures. It studies the links between imperialism, development, and transportation. The course also examines the particular ways in which transportation disadvantage, automobility, limited public transit services, and aging in place affect women as well as initiatives to promote sustainable transportation. Students may not hold credit for both WOMN 2610 and WOMN 2540 with the topic "Gender, Transport and Social Justice."	Sustainability Focused
WOMN 3100 Sex Work in Contemporary Canadian Culture	Arts	Women's and Gender Studies	UG	This course examines cultural linkages between femininity and prostitution in the context of contemporary Canadian culture. The course begins by considering historical cultural and feminist discourses about sex work and sex workers. Keeping in mind that the actual exchange of sexual services for money is currently legal in Canada, course discussions will interrogate enduring representations of sex workers. The course also examines some prostitution-related legislation, ideological and "real world" linkages between violence and prostitution, and ongoing activism that reinforces or resists negative representations and the realities of sex workers in Canada today. Students may not hold credit for both WOMN 3100 and WOMN 2540 with the topic "Sex Work in Contemporary Canadian Culture." Prerequisite: [a grade of "C" or better in a minimum of three credit hours of Women's and Gender Studies courses] or written consent of the Women's and Gender Studies coordinator.	Sustainability Related
WOMN 3330 Sex and Sexualities	Arts	Women's and Gender Studies	UG	Comparative approaches to the study of human sexuality and the diversity of sexual expression and identification from a feminist and crosscultural ethnographic perspective. Sex and sexualities are examined as social and cultural constructions, experiences, discourses, identities, and practices located in specific local contexts and shaped by wider social processes including colonialism and globalization. This course is also offered as ANTH 3330. Students may not hold credit for WOMN 3330 and any of: ANTH 3330 or the former ANTH 3350 or WOMN 3500 (156.350) with the topic "Anthropology of Sex and Sexualities." Prerequisite: [a grade of "C" or better in a minimum of three credit hours of Women's and Gender Studies or Anthropology courses] or written permission of instructor.	Sustainability Related
WOMN 3520 Transnational Feminisms	Arts	Women's and Gender Studies	UG	Introduction to transnational feminist perspectives in order to analyse our contemporary world, including gendered, racialized, and classed power relations and inequalities. Focus is placed on how current global phenomena such as neoliberalism, structural adjustment, and migration shape people's lived experiences in different regions of the world. Students may not hold credit for both WOMN 3520 and the former WOMN 3510 (156.351). Prerequisite: [a grade of "C" or better in a minimum of three credit hours of Women's and Gender Studies courses] or written consent of instructor.	Sustainability Related
WOMN 3550 Feminist Community Organizing: Theories and Practices	Arts	Women's and Gender Studies	UG	(Formerly 156.355) Overview of organizing efforts and techniques, community issues and strategies that women have developed in North American and especially Canadian communities. Focus is on a synthesis of thought and action, theory and practice. Prerequisite: [a grade of "C" or better in a minimum of three credit hours of Women's and Gender Studies courses] or written consent of the Women's and Gender Studies coordinator.	Sustainability Related
WOMN 3560 Feminist Perspectives on Violence Against Women	Arts	Women's and Gender Studies	UG	(Formerly 156.356) An overview of feminist research and theories on violence against women as an integral component of our social structure, and on issues of social change to alleviate the problem. Prerequisite: [a grade of "C" or better in a minimum of three credit hours of Women's and Gender Studies courses] or written consent of the Women's and Gender Studies coordinator.	Sustainability Related
WOMN 3620 Masculinities	Arts	Women's and Gender Studies	UG	An introduction to the key debates in masculinity studies from a feminist perspective. Considering the idea of "hegemonic masculinity" and the practice of creating a typology of masculinity, this course examines the changing forms of masculinity as a political and cultural category, using historical examples from the 19th century and the 1970s and considers the influence of feminist theories on men's engagement with masculinity in North America. Students may not hold credit for both WOMN 3620 and WOMN 3500 (156.350) with the topic "Masculinities." Prerequisite: [a grade of "C" or better in a minimum of three credit hours of Women's and Gender Studies courses] or written consent of the Women's and Gender Studies coordinator.	Sustainability Related
WOMN 7170 Directed Readings in Women's Studies	Arts	Women's and Gender Studies	G	(Formerly 156.726) Advanced study of selected topics in Women's Studies from an interdisciplinary perspective. The content of the course may vary from year to year and will be arranged by the coordinator of the Women's and Gender Studies Program in consultation with the appropriate representatives of departments. Prerequisite: consent of the Women's and Gender Studies coordinator and the instructor. Students must complete a Reading Course Application Form available from the Women's and Gender Studies office. As the course content will vary from year to year, students may take this course more than once for credit.	Sustainability Related
WOMN 7270 Advanced Topics in Women's Studies	Arts	Women's and Gender Studies	G	(Formerly 156.727) Advanced study of selected topics in Women's Studies from an interdisciplinary perspective. The content of the course may vary from year to year and will be arranged by the coordinator of the Women's and Gender Studies Program in consultation with the appropriate representatives of departments. Interdisciplinary analysis of contemporary issues, debates and theories in Women's Studies. Topics will vary from year to year and may include, for example, gender theory, sexualities, or feminist pedagogy. Prerequisite: consent of the Women's and Gender Studies coordinator and course instructor. As the course content will vary from year to year, students may take this course more than once for credit.	Sustainability Related