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MEMORANDUM

ATTENTION Senate DATE December 3, 2010
FROM Bill Krane, Chair PAGES 1/1
Senate Committee on
Undergraduate Studies
RE: Faculty of Environment (SCUS 10-61)

For information:

Acting under delegated authority at its meeting of December 2, 2010, SCUS approved the following curriculum revisions effective Fall 2011:

1. Development and Sustainability Program (DEVS) (SCUS 10-61a)

- (i) New Course Proposal:
DEVS 201-3, Introduction to Development and Sustainability
DEVS 401-4, Issues, Concepts and Cases in Development and Sustainability

2. Department of Geography (SCUS 10-61b)

- (i) Course description change for GEOG 302, 303, 402, 403, 409, 311 and 411
- (ii) Description, prerequisite and title change for GEOG 386
- (iii) Prerequisite change for 440/440W
- (iv) Course deletions for GEOG 416W and 446
- (v) New Course Proposal: GEOG 104-3, Climate Change, Water and Society

3. School of Resource and Environmental Management (REM) (SCUS 10-61c)

- (i) New Course Proposal: REM 321-3, Ecological Economics
ENV 321-3, Ecological Economics

Senators wishing to consult a more detailed report of curriculum revisions may do so on the Web at http://www.sfu.ca/senate/Senate_agenda.html following the posting of the agenda. If you are unable to access the information, please call 778-782-3168 or email shelley_gair@sfu.ca



faculty of environment

MEMO

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ATTENTION	SCUS
FROM	Duncan Knowler, Chair, FENV Curriculum Committee
RE	Faculty of Environment Course Credit Hour Changes
DATE	February 11, 2010

The following have been approved by the Faculty of Environment (FENV) Curriculum Committee at its meeting of November 18, 2010 and are being forwarded to SCUS for approval and recommendation to Senate.

- Development and Sustainability (DEVS)
 - Minor in Development and Sustainability - Full Program Proposal
 - DEVS 201-3: New Course Proposal
 - DEVS 401-4: New Course Proposal
- Department of Geography
 - GEOG 302: Course Change
 - GEOG 303: Course Change
 - GEOG 402: Course Change
 - GEOG 403: Course Change
 - GEOG 409: Course Change
 - GEOG 311: Course Change
 - GEOG 411: Course Change
 - GEOG 386: Course Change
 - GEOG 440: Course Change
 - GEOG 440W: Course Change
 - GEOG 416-4: Course Deletion
 - GEOG 446-4: Course Deletion
 - GEOG 104-3: New Course Proposal
- School of Resource and Environmental Management (REM)
 - REM 321-3 - New Course Proposal
- Faculty of Environment (ENV)
 - ENV 321-3 - New Course Proposal (cross-listed with REM 321-3)

Full Program Proposal
Minor in Development and Sustainability
Faculty of Environment (FENV)

EXECUTIVE SUMMARY

To advance the goal of developing undergraduate programming within the FENV, to support the broader sustainability and internationalization goals of the University, and to recognize growing student interest, we propose the creation of a minor under the Development and Sustainability Program. The proposed Minor in Development and Sustainability (DEVS) will both create new courses and package a diverse and interdisciplinary array of relevant existing courses and teaching/research expertise. It will provide a coherent yet broad undergraduate program exploring various aspects of 'sustainability' that arise from the complex interrelationships between 'development' and the 'environment', all in relation to problem-solving thematic areas at various scales (from local to global). The DEVS minor is targeted at undergraduate students inside FENV as well as students across a range of participating units and faculties in the University who are seeking ways to deepen their understanding of the connections between development, sustainability, and environment. The Notice of Intent for this Minor was approved by SCUP on 20 July 2010 (see Appendix E).

CURRICULUM

1) Student Outcomes

- Provide students with a strong foundation in the study of various aspects of 'sustainability' that arise from the complex interrelationships between 'development' and the 'environment' in relation to problem-solving thematic areas at various scales (local to global).
- Enable the 'versatile student' imagined by SFU during the founding of FENV to complete an integrative interdisciplinary curriculum that combines in-class instruction with experiential learning (such as field site visits). This Minor complements a number of Major programs, enhancing student versatility.
- Help students to identify and to develop the skills, learning outcomes, and knowledge requirements for employment in these fields where knowledge of the interactions between development, environmental and sustainability issues at various scales is an asset; also, to prepare the high-performing undergraduate student for graduate studies.

2) Graduation Requirements

Prospective students must apply to Simon Fraser University for admission and meet the normal admission requirements.

- Award of Minor requires completion of **19 units** from prescribed courses; these consist of at least **3 units** at the lower division, consisting of a core DEVS course plus any prerequisites for upper division courses, and **16 units** at the upper division, including a core DEVS course.
- The two core DEVS courses shall be DEVS 201-3 "Introduction to Development and Sustainability" and DEVS 401-4 "Issues, Concepts and Cases in Development and Sustainability" (see Appendix B for course descriptions).
- The balance of program requirements beyond core courses shall be drawn from a list of electives at the 300 and 400 levels in participating units (Departments, Schools, Faculties).

Approved by FENV Curriculum Committee (18 Nov 2010)

- Entry to this program is on a competitive basis, and requires completion of 30 credit hours in lower level courses; good standing in the program requires a CGPA not lower than 2.75; students must also be 'in good standing' in their home units where they are doing their major degree.

3) Course/program structure and class sizes

- a) Students must complete DEVS 201 and DEVS 401, plus at least three upper level courses. Two of these three upper division courses must be from outside their home unit (Department or Faculty), to ensure breadth.
- b) Elective courses shall be drawn from a list composed of courses from the following units: Archaeology, Communication, Economics, Education, Environmental Sciences, First Nations Studies, Geography, Health Sciences, History, Humanities, International Studies, Latin American Studies, Political Science, Resource and Environmental Management, Sociology/Anthropology and Sustainable Community Development (see Appendix A for a list of electives).
- c) The list of prescribed and approved elective courses will be reviewed with participating units, from time to time; units have been informed that we expect participation of between 5 and 9 students from the DEVS Minor in courses listed in this Program. Units have agreed to participate, noting students occasionally may experience difficulty in enrolling in some courses for space reasons, and that in some cases instructor's permission must be obtained. For these reasons the list of electives was designed to include a substantial number of courses.
- d) Class size is predicted to be 80 to 100 in DEVS 201 and 30 to 40 in DEVS 401 after two years. For pedagogical reasons, enrolment in DEVS 401 will be limited to 40 in a seminar: if necessary this course can be taught twice a year in order to respond to increased demand.

CREDENTIAL TO BE AWARDED

One credential will be awarded, the *Minor in Development and Sustainability (DEVS)*.

LEARNING METHODOLOGIES

Students will be judged on performance and the quality of completed projects and assignments, in a manner comparable to other units in FENV. Lectures and tutorials, where available, as well as seminars are the main methods of teaching, along with labs, where required. It is recognized that the proposed Minor in DEVS will need to be distinct from other programming at SFU, such as current offerings from African Studies, International Studies and/or Latin American Studies. The following methodologies will ensure this distinctiveness:

- world-wide international development experience of instructors and guests;
- real-world issues studied in the context of students' immediate surroundings;
- focus on the tension between sustainability/environment and development at the local level;
- emphasis on the applied aspects of 'development practice and policy';
- opportunities for exchange programs, experiential learning (field trips/schools, placements, etc) and team taught courses;
- inter-disciplinary combination of applied sciences, humanities, social science, resource management and policy studies; and,
- local and global scope (not only region specific).

FACULTY

Two faculty members will teach the core courses in the Minor, DEVS 201 and 401:

Approved by FENV Curriculum Committee (18 Nov 2010)

- Robert Anderson, Director of DEVS Program, and Professor of Communication, FCAT
- James Busumtwi-Sam, Associate Professor of Political Science, FASS

Both faculty members currently teach the core DEVS 801 course in the *Graduate Certificate in Development and Sustainability* offered by the DEVS program.

Additional faculty contributing to the program include the members of the DEVS Steering Committee (see Appendix C), plus the many faculty teaching the elective courses (see Appendix A).

PROGRAM CONSULTATIONS and EVALUATIONS

We have consulted outside FENV, with units such as Archaeology, Latin American Studies, International Studies, Communication, Sociology/Anthropology, Health Sciences, Political Science, History, First Nations Studies, Economics, etc. Some of their undergraduate courses are, with their agreement, listed here as courses that can be taken to complete the Minor. Conditions set by these units regarding space availability and pre-requisites have been accepted and recorded in relevant cases.

Students will participate in course evaluations as in all SFU courses. DEVS core courses will be evaluated by students in a similar manner. The Director and Steering Committee will ensure that appraisals of instructor performance are conducted in a manner consistent with FENV procedures, reporting to the Dean.

ANTICIPATED PROGRAM START DATE

September 2011.

ADMISSION

Entry to this program is on a competitive basis and requires completion of 30 credit hours at the lower division; good standing in the Minor program requires that students maintain a CGPA not lower than 2.75.

GOVERNANCE

The Development & Sustainability Program (DEVS) is one of the constituent units in the FENV, and has a Director and Steering Committee, operating with a Constitution. It currently administers the Graduate Certificate in Development & Sustainability. We now propose an undergraduate minor that will be anchored by a set of core courses 'owned' by the DEVS program and administered by a Director and Steering Committee, reporting through appropriate curriculum committees to the Dean of FENV. (see Appendix C). The DEVS Steering Committee will evaluate the function and effectiveness of this Minor degree biennially.

RESOURCES AND BUDGET

Most of the courses in the proposed Minor are existing courses already taught by regular faculty members in participating units. The program will have two new required courses, DEVS 201-3 and DEVS 401-4. The program requires a modest amount of new resources and/or the re-allocation of existing resources (in the form of instructional secondments or course buy-outs) to cover the teaching of the two planned core-courses by faculty members from outside the Faculty of Environment. The necessary resources and arrangements to meet these requirements have been identified and approved by the Dean.

Approved by FENV Curriculum Committee (18 Nov 2010)

The SFU Library has a rich collection of material on development and sustainability, on both international and local levels; it continues to build its holdings (books, journals, videos, etc) in relevant fields. All the elective courses included in this proposal are previously approved courses so that adequate library resources have been put in place. The required DEVS courses draw from literatures already well established in the library.

There would be no fees for the Minor other than the regular tuition, exchange, field school or other fees related to a specific course or another program. There would be no application fee for admission.

CONTACT PERSONS

Robert Anderson, Director, Development & Sustainability Program, Faculty of Environment, SFU, tel 778 782 4265.

Duncan Knowler, Associate Dean, Faculty of Environment, SFU, tel 778 782 8827.

APPENDIX A Calendar Entry for the Minor in Development and Sustainability

Explores various aspects of sustainability that arise from the complex relationship between development and environment, including discussion of practice and policy issues in relation to problem-solving and examination of thematic areas at various scales (from local to global) that enhance the quality of life. Entry to this program is on a competitive basis, and requires completion of 30 credit hours in lower level courses; good standing in the program requires a CGPA not lower than 2.75; students must also be 'in good standing' in their home units where they are doing their major degree.

Lower Division Requirements

Requires completion of the required core course, DEVS 201-3.

Upper Division Requirements

Students complete 16 units at the upper division level, including the core course, DEVS 401-4. The remaining 12 units must be selected from the following list of courses, and must include at least two courses from outside their home unit (department, school, or faculty).

Archaeology

ARCH 365-3 Ecological Archaeology
ARCH 377-5 Historical Archaeology
ARCH 385-5 Paleoanthropology
ARCH 386-3 Archaeological Resource Management

Communication

CMNS 342-4 Science and Public Policy: Risk Communication
CMNS 346-4 Communication and Development
CMNS 347-4 Communication in Conflict and Intervention
CMNS 388-4 Environment, Media, and Communication (2010 and 2011 only)
CMNS 425-4 Applied Communication for Social Issues
CMNS 426-4 Video Design for Social Communication
CMNS 444-4 The Political Economy of International Communication
CMNS 446-4 Communication of Science and the Transfer of Technology
CMNS 447-4 Negotiation and Dialogue as Communication
CMNS 456-4 Communication to Mitigate Disasters

Economics

ECON 355W-4 Economic Development

Education

EDUC 311-3 Foundations in Aboriginal Education, Language, and Culture
EDUC 370-4 International and Intercultural Education
EDUC 435-4 Infusing Global Perspectives into Curriculum
EDUC 441-4 Multicultural and Anti-racist Education
EDUC 452-8 Environmental Education

First Nations Studies

FNST 332-3 Ethnobotany of British Columbia First Nations
FSNT 383-4 Indigenous Technology: Art and Sustainability
FNST 401-3 Aboriginal Rights and Government Relations
FNST 403-3 Indigenous Knowledge in the Modern World
FNST 433-4 Indigenous Environmental Activism

Geography

GEOG 322-4 World Resources
GEOG 323-4 Industrial Location
GEOG 324-4 Geography of Transportation
GEOG 325-4 Geographies of Consumption
GEOG 327-4 Geography of Tourism
GEOG 382-4 Population Geography
GEOG 383-4 Regional Development and Planning I
GEOG 389W-4 Nature and Society
GEOG 422-4 Theories and Practices of Development
GEOG 429-4 Environment and Inequality
GEOG 466-4 Latin American Regional Development
GEOG 468-4 Society and Environment in China

Health Sciences

HSCI 308-3 Sickness and Wealth: Health in Global Perspective
HSCI 340-3 Social Determinants of Health
HSCI 406-3 Global Perspectives in Indigenous Health
HSCI 412-3 Health Communication
HSCI 431-3 The Global HIV/AIDS Epidemic

History

HIST 322-4 Atlantic and Pacific Migration
HIST 361-4 The History of Science: The Eighteenth Century to the Present
HIST 363-4 History of Technology
HIST 377-4 Environmental History
HIST 425-4 Gender and History
HIST 427-4 Problems in the History of Aboriginal Peoples
HIST 472-4 Problems in World History
HIST 432-4 Problems in Environmental History
HIST 455-4 Race in the Americas
HIST 458-4 Problems in Latin American Regional History
HIST 459-4 Problems in the Political and Social History Latin America

Humanities

HUM 325-4 The Humanities and the Natural World

International Studies

IS 313W-4 Nationalism, Democracy and Development in Modern India
IS 314-4 National, Regional, and International Politics in Southeast Asia
IS 409-4 Special Topics I: Human Security
IS 410-4 Politics, Institutions and Development

IS 429-4 Special Topics III: Historical Political Economy of Development

Political Science

- POL 335-4 Government and Politics: People's Republic of China
- POL 342-4 Developing Countries in Global Politics
- POL 343-4 Global Political Economy
- POL 346-4 International Organization
- POL 373-4 Human Security
- POL 374-4 Africa in the Global Political Economy
- POL 433-4 Comparative Development
- POL 442-4 The Political Economy of International Trade
- POL 446-4 International Relations in East Asia
- POL 447-4 Theories of Global Political Economy

Resource and Environmental Management

- REM 356-3 Institutional Arrangements for Sustainable Environmental Management

Sociology & Anthropology

- SA 302W-4 Global Problems and the Culture of Capitalism
- SA 316-4 Tourism and Social Policy
- SA 363-4 Processes of Development and Underdevelopment
- SA 371-4 The Environment and Society
- SA 392-4 Latin America
- SA 396-4 Selected Regional Areas
- SA 418-4 International Health: Global Policies and Local Realities
- SA 429-4 Sex, Work, and International Capital
- SA 430-4 States, Cultures and Global Transitions
- SA 463-4 Special Topics in Development Studies

Sustainable Community Development

- SCD 301-4 Sustainable Community Development Theory and Practice
- SCD 401-4 Social Enterprise for Sustainable Community Development
- SCD 403-4 Leadership in Sustainable Community Development

APPENDIX B Calendar Descriptions of Core Courses in DEVS Minor

DEVS 201-3 – Introduction to Development and Sustainability

A critical introduction to various approaches to 'development' and 'sustainability'. Examines the impacts of major drivers of environmental change caused by development processes, and offers selected case studies from around the world illustrating policy and practical challenges to implementing sustainable development measures at various scales.

DEVS 401-4 – Issues, Concepts, and Cases in Development and Sustainability

An in-depth critical examination of contemporary challenges to effective governance for sustainable development within the context of global North-South relations. Assesses the prospects for sustainable solutions in relation to selected problem-solving thematic areas and case-studies at various scales involving student-led dialogues.

APPENDIX C - Steering Committee of the Development and Sustainability Program

David Zandvliet	Ian Andrews (alternate)	Education
Alex Clapp	John Brohman (alternate)	Geography
Bob Anderson (Director)	Zhao Yuezhi (alternate)	Communication
James Busumtwi-Sam	Anil Hira (alternate)	Political Science
Yildiz Atasoy	Michael Hathaway (alternate)	Sociology/Anthropology
June Francis		Business
Habiba Zaman		Women's Studies
Mark Roseland		Centre for Sustainable Community Development
Wolfgang Haider		Resource & Environmental Management
Alec Dawson		History & Latin American Studies
Craig Janes		Health Sciences
Eldon Yellowhorn		Archaeology & First Nations Studies
Shaheen Nanji		SFU Office of International Development

APPENDIX D - Related Programs in British Columbia

The study of sustainability and development is a growing world-wide trend, and SFU will adopt a special and distinctive approach, facing the environmental context and enabling students to focus on sustainable strategies. In June 2010 it was estimated that over 4500 undergraduates are in development studies programs across Canada (both minors and majors, also named as 'international', 'global', etc). This does not count those in discipline-based programs who study similar subjects. In some universities where development and sustainability programs have been established for a few years, the Minor degree programs in this field carry the largest, second-largest, or third largest number of undergraduate students in the entire university. None of those universities are located in British Columbia. Related programs in BC that address aspects of this subject are located at the University of British Columbia – the “Sociological, Ecological, and Development Studies” (SEEDS) program; Vancouver Island University – Global Studies; University of Fraser Valley - Minor degree in Development Studies (applied 2010); University of Northern British Columbia – Minor degree in Development Studies (applied 2010).

APPENDIX E - Notice of Intent

Minor in Development and Sustainability
Faculty of Environment (FENV) Simon Fraser University

EXECUTIVE SUMMARY

To advance the goal of developing undergraduate programming within the FENV, to support the broader sustainability and internationalization goals of the University, and to recognize growing student interest, we propose the creation of a minor under the Development and Sustainability Program. The proposed Minor in Development and Sustainability (DEVS) will both create new courses and package a diverse and interdisciplinary array of relevant existing courses and teaching/research expertise into a coherent yet broad undergraduate program exploring various aspects of 'sustainability' that arise from the complex interrelationships between 'development' and the 'environment', all in relation to problem-solving thematic areas at various scales (from local to global).

1. CREDENTIAL TO BE AWARDED

One credential will be awarded, the *Development and Sustainability Minor*. This complements the program's *Graduate Certificate in Development and Sustainability* approved by Senate in 2005.

2. LOCATION OF PROGRAM

Faculty of Environment, Simon Fraser University, Burnaby Campus.

3. DEPARTMENTS OFFERING PROGRAM

The Development & Sustainability Program (DEVS) is one of the constituent units in the FENV with a Director and Steering Committee. It currently administers the Graduate Certificate in Development & Sustainability. We propose an undergraduate minor that will be anchored by a set of core courses 'owned' by the DEVS program and administered by a Director and Steering Committee, reporting through appropriate committees to the Dean of FENV. We have consulted outside FENV, with units like Latin American Studies, International Studies, Earth Sciences, Communication, Sociology/Anthropology, Health Sciences, Political Science, etc; some of their undergraduate courses will, with their agreement, be listed as courses which can be taken to complete this minor.

4. ANTICIPATED PROGRAM START DATE

September 2011.

5. PROGRAM DESCRIPTION

5.1 Purposes & Objectives

- Provide students with a strong foundation in the study of various aspects of 'sustainability' that arise from the complex interrelationships between 'development' and the 'environment' in relation to problem-solving thematic areas at various scales (local to global).

- Enable the ‘versatile student’ imagined by SFU during the founding of FENV to complete an integrative interdisciplinary curriculum that combines in-class instruction with experiential learning (such as field site visits).
- Help students to determine and to develop the skills, learning outcomes and knowledge requirements for employment where knowledge of the interactions between development, environmental and sustainability issues at various scales is an asset.

5.2 Contribution to University’s Strategic Plan

The University has expanded its slate of international programming through curricular revision and the creation of the School for International Studies, the Faculty of Health Sciences, and the new Faculty of Environment. The name of our Program and the minor degree signals a fit with SFU’s Sustainability Policy (GP 38), which commits the university to becoming “a leading institution in the transition to a sustainable society.” Section 3.2 of the policy states that “SFU will strive to be in the forefront of sustainability research and education and will use its institutional capacity to promote sustainability within and beyond the university.” The Full Program Proposal for this minor will articulate its contribution to both the FENV strategic objectives and the university-wide strategic plan. The DEVS minor will incorporate all relevant aspects of the FENV pedagogical and research objectives as listed in its Strategic Research Plan 2009-2010.

Thus, the proposed minor in Development and Sustainability contributes to the University’s strategic plan by:

- Developing, enlarging, and strengthening undergraduate programming, a key mandate of the FENV, which brings together the social sciences, humanities, the applied aspects of natural sciences, education, management and the policy sciences around problem-centered thematic areas.
- Further developing the Graduate Certificate in Development Studies (established 2005), and work together with other units in FENV - CSCD, REM, Geography, and Environmental Sciences.
- Establishing synergies with other units and programs outside FENV (Latin American Studies, International Studies, Business Administration, Earth Sciences, Communication, Sociology/Anthropology, Health Sciences, Political Science, etc) that deal with various aspects of ‘development’, ‘environment’ and ‘sustainability’.
- Advancing the FENV and University strategic research plans, and enhance the research capacity of the University in these areas by identifying high performing undergraduate students; and to make them capable for graduate studies.
- Strengthening SFU and FENV policy outreach, community engagement, and institutional linkages abroad.

5.3 Target Audience

The DEVS minor is targeted at undergraduate students inside FENV as well as students across a range of participating units and faculties in the University who are seeking ways to deepen their understanding of the connections between development, sustainability, and environment. The proposed minor program enables students to bring intellectual coherence to their choice of courses to explore these issues, and to make better academic choices.

5.3.1 Evidence of Interest

Different units in the university have taught courses in development and /or environmental studies for a number of years, and student interest has been steady. This evidence shows student demand and support, *even without* a link to the integration and concentration of environment and sustainability issues as a named and advertized program, as in '*development and sustainability*'. This minor will fully explore the linkages of development and sustainability at various scales and across a variety of issues. Undergraduate students working on sustainability questions in units across the university regularly point to their need to integrate courses in these fields *in a coherent and multi-disciplinary program, as seen from a student's point of view*. This program will provide, maintain, and enhance that coherence. Outside the university, employers (NGOs, business, & government) are looking for people knowledgeable about the interactions between sustainability, development and the environment.

5.4 Content and Graduation Requirements

Prospective students must apply to Simon Fraser University for admission and meet the normal admission requirements.

1. Award of Minor requires completion of 24 units from prescribed courses; at least 4 units at the lower division and 18 at the upper division, including core courses;
2. The two core courses shall be DEVS 201-3 and DEVS 401-4;
3. The balance of program requirements beyond core courses shall be a list of electives drawn from 300 and 400 level courses in participating units (departments, schools);
4. These elective courses shall be arranged in three groups: *Group 1*: arts, social sciences & humanities, including geography, international studies; *Group 2*: business administration, communications & education; *Group 3*: resource and environmental management, environmental sciences, and health sciences.
5. Students must complete at least one upper level course from each of the three groups.
6. The list of prescribed and approved elective courses will be reviewed with participating units, from time to time;
7. Entry to this program is on a competitive basis, and requires completion of 30 credit hours in lower level courses; good standing in the program requires a GPA not lower than 2.75

Note: DEVS 201-3 will be called "Introduction to Development and Sustainability"; DEVS 401-4 will be called "Issues, Concepts and Cases in Development and Sustainability".

5.5 Distinctive Characteristics

It is recognized that the proposed DEVS Minor will need to be distinct from other programming at SFU, such as current offerings from African Studies, International Studies and/or Latin American Studies. The following attributes will ensure this distinctiveness:

- world-wide development experience of instructors and guests,
- real-world issues studied in the context of students' immediate surroundings,
- focus on the tension between sustainability/environment and development at the local level,
- emphasis on the applied aspects of 'development practice',
- opportunities for exchange programs, experiential learning (field trips/schools, placements, etc), and team taught courses,

- inter-disciplinary combination of applied sciences, humanities, social science, resource management and policy studies, with an emphasis on employment opportunities,
- local and global scope (not region specific).

5.6 Completion time

Admission to the program is open to all undergraduates registered and in good academic standing at SFU. Completion of the undergraduate minor will take the same time as minor degrees in other units and programs.

5.7 Student Evaluation

Undergraduate students in good standing must maintain a minimum grade point average of 2.75 calculated on all courses applied to the minor. Duplicate courses are counted only once. Students must also be 'in good standing' in their home units where they are doing their major degree. Students will be judged on performance and the quality of completed projects and assignments, in a manner comparable to other units in FENV.

5.8 Program Assessment

The DEVS Steering Committee will evaluate the function and effectiveness of the minor degree biennially.

5.9 Resources

Most of the courses in the proposed Minor are existing courses already taught by regular faculty members in participating units. The program will have two new required courses, DEVS 201-4 and DEVS 401-4. The program requires a modest amount of new resources and/or the re-allocation of existing resources (in the form of secondments, course buy-outs, or cross-appointments) to cover the teaching of the two planned core-courses normally to be taught by the program director and a designated 'course leader' (as approved by the Dean).

The SFU Library has a rich collection of material on development and sustainability, on both international and local levels; it continues to build its holdings (books, journals, videos, etc) in relevant fields.

There would be no fees for the undergraduate minor other than the regular tuition, exchange, field school or other fees related to a specific program. There would be no application fee for admission.

5.10 Related Programs

The study of sustainability and development is a growing world-wide trend, and SFU will adopt a special and distinctive approach, facing the environmental context and enabling students to focus on sustainable strategies. In June 2010 it was estimated that over 4500 undergraduates are in development studies programs across Canada (both minors and majors, also named as 'international', 'global', etc). This does not count those in discipline-based programs who study similar subjects. In some universities where development and sustainability programs have been established for a few years, the Minor degree programs in this field carry the largest, second-largest, or third largest number of undergraduate students in the entire university. None of those universities are located in British Columbia.

Related programs in BC which address aspects of this subject are located at University of British Columbia – the “Sociological, Ecological, and Development Studies” (SEEDS) program; University of Vancouver Island – Global Studies; University of Fraser Valley - Minor degree in Development Studies (applied 2010); University of Northern British Columbia – Minor degree in Development Studies (applied 2010).

6. CONTACT PERSONS

Duncan Knowler, Associate Dean, Faculty of Environment, SFU, tel 778 782 8827.

Robert Anderson, Director, Development & Sustainability Program, Faculty of Environment, SFU, tel 778 782 4265, and/or James Busumtwi-Sam, SFU tel 778 782 4346.



COURSE NUMBER DEVS 201-3

COURSE TITLE

LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Introduction to Development and Sustainability

AND

SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Intro Sustainable Development

CREDITS

Indicate number of credits for: Lecture 3 Seminar _____ Tutorial _____ Lab _____

COURSE DESCRIPTION (FOR CALENDAR). 3-4 LINES MAXIMUM. ATTACH A COURSE OUTLINE TO THIS PROPOSAL.

A critical introduction to various approaches to 'development' and 'sustainability'. Examines the impacts of major drivers of environmental change caused by development processes, and offers selected case studies from around the world illustrating policy and practical challenges to implementing sustainable development measures at various scales.

PREREQUISITE

None

COREQUISITE

None

SPECIAL INSTRUCTIONS

That is, does this course replicate the content of a previously-approved course to such an extent that students should not receive credit for both courses.? If so, this should be noted in the prerequisiite.

COURSES(S) TO BE DELETED IF THIS COURSE IS APPROVED

NOTE: APPROPRIATE DOCUMENT FOR DELETION MUST BE SUBMITTED TO SCUS

N/A

RATIONALE FOR INTRODUCTION OF THIS COURSE

It is a core requirement of the proposed DEVS Minor



SCHEDULING AND ENROLLMENT INFORMATION

Indicate effective term and year course would first be offered and planned frequency of offering thereafter:

1117 (Fall 2011) Frequency: **every fall thereafter**

(NOTE: There is a two-term wait for implementation of any new course.)

Indicate if there is a waiver required: YES NO Will this be a required or elective course in the curriculum? Required Elective

What is the probable enrollment when offered? Estimate 80-100

Which of your present CFL faculty have the expertise to offer this course?

James Busumtwi-sam; Robert Anderson

Are there any proposed student fees associated with this course other than tuition fees? YES NO
(If yes, attach mandatory supplementary fee approval form.)

RESOURCE IMPLICATIONS

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by a library report and, if appropriate, confirmation that funding arrangements have been addressed.

Campus where course will be taught Burnaby

Library report status attached.

Provide details on how existing instructional resources will be redistributed to accommodate this new course. For example, will another course be eliminated or will the frequency of offering of other courses be reduced; are there changes in pedagogical style or class sizes that allow for this additional course offering?

The course requires a modest amount of new resources and/or the re-allocation of existing resources (in the form instructional secondments, course buy-outs, or cross-appointments) to cover the teachings of the two planned core-courses normally to be taught by the program director and a designated 'course leader' (as approved by the Dean).

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

Dean has approved funding for course buyouts, secondments or limited term appointments as needed.

Articulation agreement reviewed? YES NO Not applicable

OTHER IMPLICATIONS

None



APPROVALS

- 1 Departmental approval indicates that the Department or School has approved the content of the course, and has consulted with other Departments/Schools/Faculties regarding proposed course content and overlap issues.

ROBERT ANDERSON RSA 5 Nov 2010
 Chair, Department/School Date
[Signature] 23-Nov-2010
 Chair, Faculty Curriculum Committee Date

- 2 Faculty approval indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/School/Department commits to providing the required Library funds.

[Signature] 23-Nov-2010
 Dean or designate Date

LIST which other Departments, Schools and Faculties have been consulted regarding the proposed course content, including overlap issues. Attach documentary evidence of responses.

Sent to all faculties - no negative replies.

Other Faculties approval indicated that the Dean(s) or Designate of other Faculties AFFECTED by the proposed new course support(s) the approval of the new course:

Faculty of Arts & Social Sciences Date _____
 _____ Date _____

- 3 SCUS approval indicates that the course has been approved for implementation subject, where appropriate, to financial issues being addressed.

COURSE APPROVED BY SCUS (Chair of SCUS):
 _____ Date _____

APPROVAL IS SIGNIFIED BY DATE AND APPROPRIATE SIGNATURE.

Faculty of Environment

DEVS 201-3

Introduction to Development and Sustainability

Instructor: J. Busumtwi-Sam, R. Anderson

Description

This course provides a critical introduction to the study of various aspects of sustainability that arise from the complex relationship between 'development' and the 'environment'. The course material is divided into three parts. Part one provides students with critical understandings of 'development' and related notions of 'growth', 'poverty', 'inequality', 'deprivation', 'exclusion', etc. After a brief survey of some major theories of development, we discuss different ways of measuring and applying these concepts qualitatively and quantitatively using various economic, political, social (e.g., education, health, etc) and other indicators, and the problems and challenges. Part two provides a critical survey of various notions of 'sustainability'. We begin with a survey of mainstream and critical understandings of the complex relationship between 'development' and the 'environment'. We also discuss various perspectives on environmental ethics focusing on how development disparities and patterns of inequality globally and locally affect vulnerability to environmental harm, including notions of "environmental racism". We then proceed to examine impacts of major drivers of environmental change caused by development processes particularly in the areas of agricultural and industrial development, and pressures from population growth/migration, including land use conversion, pollution and resource depletion, and impacts on freshwater supply and on ecosystems. The factors of trade, consumption and international business are studied in terms of their roles in this process. Part three examines some of the policy and practical challenges in implementing sustainable development measures at various scales. Here, we discuss selected case-studies illustrating conservation measures and sustainable resource use (e.g., Integrated Water Resource Management, biodiversity conservation systems such as Protected Areas and Adaptive Co-management), and climate change mitigation and adaptation initiatives (e.g., Clean Development Mechanism projects). We also examine evolving notions of 'sustainable livelihoods' and 'sustainable human development'.

Prerequisite(s)

None

Course Requirements

Analytical paper (2)	20%	Review paper	10%
Final Exam	35%	Research Essay	35%

Texts

Required readings will be available in a custom courseware book and/or on short-term reserve in the library

Course Organization

A three-hour lecture/seminar each week



COURSE NUMBER DEVS 401-4

COURSE TITLE

LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation

Issues, Concepts and Cases in Development and Sustainability

AND

SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation

Issues Sustainable Development

CREDITS

Indicate number of credits for: Lecture _____ Seminar 4 Tutorial _____ Lab _____

COURSE DESCRIPTION (FOR CALENDAR). 3-4 LINES MAXIMUM. ATTACH A COURSE OUTLINE TO THIS PROPOSAL.

An in-depth critical examination of contemporary challenges to effective governance for sustainable development within the context of global North-South relations. Assesses the prospects for sustainable solutions in relation to selected problem-solving thematic areas and case-studies at various scales involving student-led dialogues.

PREREQUISITE

60 credit hours

Students with credit for ENV 401-4 may not take this course for credit

COREQUISITE

None

SPECIAL INSTRUCTIONS

That is, does this course replicate the content of a previously-approved course to such an extent that students should not receive credit for both courses? If so, this should be noted in the prerequisite.

COURSES(S) TO BE DELETED IF THIS COURSE IS APPROVED

NOTE: APPROPRIATE DOCUMENT FOR DELETION MUST BE SUBMITTED TO SCUS

N/A

RATIONALE FOR INTRODUCTION OF THIS COURSE

It is a core requirement of the proposed DEVS Minor. This course has been offered once as a Special Temporary Topics Course.



SCHEDULING AND ENROLLMENT INFORMATION

Indicate effective term and year course would first be offered and planned frequency of offering thereafter:

1121 (Spring 2012) Frequency: every spring thereafter

(NOTE: There is a two-term wait for implementation of any new course.)

Indicate if there is a waiver required: YES NO Will this be a required or elective course in the curriculum? Required Elective

What is the probable enrollment when offered? Estimate 40

Which of your present CFL faculty have the expertise to offer this course?

James Busumtwi-sam; Robert Anderson

Are there any proposed student fees associated with this course other than tuition fees? YES NO
(If yes, attach mandatory supplementary fee approval form.)

RESOURCE IMPLICATIONS

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by a library report and, if appropriate, confirmation that funding arrangements have been addressed.

Campus where course will be taught: Burnaby

Library report status: attached.

Provide details on how existing instructional resources will be redistributed to accommodate this new course. For example, will another course be eliminated or will the frequency of offering of other courses be reduced; are there changes in pedagogical style or class sizes that allow for this additional course offering?

The course requires a modest amount of new resources and/or the re-allocation of existing resources (in the form instructional secondments, course buy-outs, or cross-appointments) to cover the teachings of the two planned core-courses normally to be taught by the program director and a designated 'course leader' (as approved by the Dean).

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:

Dean has approved funding for course buyouts, secondments or limited term appointments as needed.

Articulation agreement reviewed? YES NO Not applicable

OTHER IMPLICATIONS

None



APPROVALS

- 1 Departmental approval indicates that the Department or School has approved the content of the course, and has consulted with other Departments/Schools/Faculties regarding proposed course content and overlap issues.

ROBERT ANDERSON RSA 5 Nov 2010
Chair, Department/School Date
[Signature] 23/11/2010
Chair, Faculty Curriculum Committee Date

- 2 Faculty approval indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/School/Department commits to providing the required Library funds.

[Signature] 23/11/2010
Dean or designate Date

LIST which other Departments, Schools and Faculties have been consulted regarding the proposed course content, including overlap issues. Attach documentary evidence of responses

Sent to all Faculties - no negative replies

Other Faculties approval indicated that the Dean(s) or Designate of other Faculties AFFECTED by the proposed new course support(s) the approval of the new course:

Faculty of Arts & Social Sciences Date _____
Date _____

- 3 SCUS approval indicates that the course has been approved for implementation subject, where appropriate, to financial issues being addressed.

COURSE APPROVED BY SCUS (Chair of SCUS):
Date _____

APPROVAL IS SIGNIFIED BY DATE AND APPROPRIATE SIGNATURE.

Faculty of Environment

DEVS 401-4 Issues, Concepts, and Cases in Development and Sustainability

Instructor: J. Busumtwi-Sam, R. Anderson

Description

This course examines the institutions, processes, laws and regulations created to achieve sustainable development at the national, regional and global levels. Socioeconomic development, population pressure, technological innovations, and pollution are among the most important drivers of environmental change and their impacts are global. Governance for sustainable development encompasses a wide range of national, regional and global institutions, laws, regulations, and practices, governmental and non-governmental, which have been created in the effort to govern the impact of these drivers on the earth's complex ecosystems. The course focuses on identifying key challenges to effective governance and assessing the prospects for sustainable solutions. In the contemporary period, many of these challenges assume a North-South dimension, and arise from disagreements over key organizing principles, over substantive values and goals, and over property rights and the distribution of costs & benefits; issues further complicated by ethical questions pertaining to environmental justice. The course is divided into two parts. Part one discusses critically different perspectives on the relationship between development, environment, and sustainability, and assesses their implications for governance. We also discuss issues of (in)justice, (in)equity and (in)equality as they pertain to sustainable development, focusing on notions of distributive, procedural justice and intergenerational justice, and deontological and consequentialist ethics. Part two examines four major areas where tensions between the Global North and South are particularly evident in the quest for sustainable development: Climate Change, Biodiversity, Population, and Water. We examine the major drivers of change in each of these areas, assess critically the governance mechanisms, and explore specific cases which embody them. The course concludes with a student-led dialogue on key issues of the day, in terms of the concepts and cases learned in this and other courses which they are taking in the DEVS Minor.

Prerequisite(s)

60 credit hours or permission of instructor (?)

Course Requirements

Analytical paper & Presentation	20%	Seminar Participation	10%
Final Exam (Take home)	35%	Research Proposal & Essay	35%

Texts

Required readings will be available in a custom courseware book and/or on short-term reserve in the library

Course Organization

A four-hour seminar each week

Seminar Format

Each seminar will begin with an overview/lecture by the instructor followed by discussion of the issues and readings.



EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s):

Course number Credit Title Description Prerequisite Course deletion

Indicate number of hours for: Lecture _____ Seminar _____ Tutorial _____ Lab _____

FROM **TO**
 Course Number GEOG 302 Course Number _____
 Credit Hour 3 Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.
GEOGRAPHY PRACTICUM I

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.
GEOGRAPHY PRACTICUM I

DESCRIPTION _____
 This is the first term of work experience in a co-operative education program available to students who plan to pursue a career in geography or related areas. Credits from this course do not count towards the credits required for an SFU degree. Prerequisite: completion of the requirements for acceptance into the Science and Environment co-operative education program. Students in the BA program and the BSc program should apply to the Science and Environment co-operative education program. Applications are due by the end of the third week of the preceding term.

DESCRIPTION _____
 First term of work experience in the Geography Co-operative Education Program. Units from this course do not count towards the units required for an SFU degree. Prerequisite: acceptance in the Environment Co-operative Education Program. Students in the BA and the BSc program should apply to the Environment Co-operative Education Program.

PREREQUISITE

PREREQUISITE

RATIONALE

To reflect change in the Program title

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite.**

Effective term and year Fall 2011



EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s):

Course number Credit Title Description Prerequisite Course deletion

Indicate number of hours for: Lecture _____ Seminar _____ Tutorial _____ Lab _____

FROM . **TO**
Course Number GEOG 303 Course Number _____
Credit Hour 3 Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.
GEOGRAPHY PRACTICUM II

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.
GEOGRAPHY PRACTICUM II

DESCRIPTION _____
This is the second term of work experience in the Geography Co-operative Education Program. Credits from this course do not count towards the credits required for an SFU degree. Prerequisite: GEOG 302 and acceptance by the Science and Environment co-operative education program. Students should apply to a co-op co-ordinator in the Science and Environment co-op program by the end of the third week of the preceding term.

DESCRIPTION _____
Second term of work experience in the Geography Co-operative Education Program. Units from this course do not count towards the units required for an SFU degree. Prerequisite: GEOG 302 and re-admission to the Environment Co-operative Education Program.

PREREQUISITE

PREREQUISITE

RATIONALE

To reflect change in the Program title.

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite.**

Effective term and year Fall 2011



EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s):

Course number Credit Title Description Prerequisite Course deletion

Indicate number of hours for: Lecture _____ Seminar _____ Tutorial _____ Lab _____

FROM **TO**
Course Number GEOG 409 Course Number _____
Credit Hour 3 Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

GEOGRAPHY PRACTICUM V

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

GEOGRAPHY PRACTICUM V

DESCRIPTION _____

This is an optional term of work experience in the Geography Co-operative Education Program. Units from this course do not count towards the units required for an SFU degree.
Prerequisite: GEOG 403 and acceptance by the Science and Environment co-operative education program. Students should apply to a co-op co-ordinator in the Science and Environment co-op program by the end of the third week of the preceding term.

DESCRIPTION _____

Optional fifth term of work experience in the Geography Co-operative Education Program. Units from this course do not count towards the units required for an SFU degree.
Prerequisite: GEOG 403 and readmission to the Environment Co-operative Education Program.

PREREQUISITE

PREREQUISITE

RATIONALE

To reflect change in the Program title.

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses?
If so, this should be **noted in the prerequisite**.

Effective term and year Fall 2011



EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s):

Course number Credit Title Description Prerequisite Course deletion

Indicate number of hours for: Lecture _____ Seminar _____ Tutorial _____ Lab _____

FROM **TO**
Course Number GEOG 411 Course Number _____
Credit Hour 4 Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

ADVANCED HYDROLOGY

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

ADVANCED HYDROLOGY

DESCRIPTION _____
An examination of hydrologic processes via experimental and observational studies; measurement and analysis of hydrologic data; application of hydrologic models; recent research developments in selected sub-fields of hydrology.

DESCRIPTION _____
An examination of hydrologic processes at different scales; effects of climate and land use change on the hydrologic cycle; application of hydrologic models; recent research developments in selected sub-fields of hydrology.

PREREQUISITE

PREREQUISITE

RATIONALE

New description better reflects the actual sequence of topics currently taught in GEOG 311/GEOG 411. Measurement and analysis of hydrological data are currently taught in GEOG 311.

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

Effective term and year Fall 2011



EXISTING COURSE, CHANGES RECOMMENDED

Please check appropriate revision(s):

Course number Credit Title Description Prerequisite Course deletion

Indicate number of hours for: Lecture _____ Seminar _____ Tutorial _____ Lab _____

FROM

TO

Course Number GEOG 440-W _____ Course Number _____

Credit Hour 4 _____ Credit Hour _____

TITLE

(1) Long title for calendar and schedule, no more than 100 characters including spaces and punctuation.

LAW AND GEOGRAPHY

(2) Short title for enrollment and transcript, no more than 30 characters including spaces and punctuation.

LAW AND GEOGRAPHY

DESCRIPTION _____ DESCRIPTION _____

PREREQUISITE
GEOG 381

PREREQUISITE
60 units, including eight of upper division Geography

RATIONALE

The current prerequisite has proved to be too restrictive. Experience has shown that students can successfully complete the course without it.

Does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

Effective term and year FALL 2011 _____



COURSE NUMBER GEOG 104-3

COURSE TITLE

LONG — for Calendar/schedule, no more than 100 characters including spaces and punctuation
Climate Change, Water, and Society

AND

SHORT — for enrollment/transcript, no more than 30 characters including spaces and punctuation
Climate Change, Water, Society

CREDITS

Indicate number of credits for: Lecture 2 Seminar Tutorial 1 Lab

COURSE DESCRIPTION (FOR CALENDAR). 3-4 LINES MAXIMUM. ATTACH A COURSE OUTLINE TO THIS PROPOSAL.

An examination of climate change, its interaction with water availability, and how humans cope with these altered circumstances.

PREREQUISITE

None. Students who have taken GEOG 102 prior to fall 2011 (1117) semester may not take this course for further credit.

COREQUISITE

None

SPECIAL INSTRUCTIONS

That is, does this course replicate the content of a previously-approved course to such an extent that students should not receive credit for both courses? If so, this should be **noted in the prerequisite**.

COURSES(S) TO BE DELETED IF THIS COURSE IS APPROVED

NOTE: APPROPRIATE DOCUMENT FOR DELETION MUST BE SUBMITTED TO SCUS

GEOG 416W

RATIONALE FOR INTRODUCTION OF THIS COURSE

It addresses themes of considerable importance in contemporary geographical research and public concern.



SCHEDULING AND ENROLLMENT INFORMATION

Indicate effective **term and year** course would first be offered and planned **frequency** of offering thereafter:
Fall 2011. Annually thereafter.

(NOTE: There is a two-term wait for implementation of any new course.)

Indicate if there is a waiver required: YES NO Will this be a required or elective course in the curriculum? Required Elective

What is the probable enrollment when offered? Estimate 50-75

Which of your present CFL faculty have the expertise to offer this course?
Hertzman, Zickfeld

Are there any proposed student fees associated with this course other than tuition fees? YES NO
(If yes, attach mandatory supplementary fee approval form.)

RESOURCE IMPLICATIONS

NOTE: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by a library report and, if appropriate, confirmation that funding arrangements have been addressed.

Campus where course will be taught Burnaby; possibility of Vancouver

Library report status ~~In preparation~~ *attached.*

Provide details on how existing instructional resources will be redistributed to accommodate this new course. For example, will another course be eliminated or will the frequency of offering of other courses be reduced; are there changes in pedagogical style or class sizes that allow for this additional course offering?

Owen Hertzman will be freed up for this course now that Geography has permanently filled its Climatology faculty position.

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc:
None

Articulation agreement reviewed? YES NO Not applicable

OTHER IMPLICATIONS

None



APPROVALS

1 Departmental approval indicates that the Department or School has approved the content of the course, and has consulted with other Departments/Schools/Faculties regarding proposed course content and overlap issues.

Chair, Department/School

Roger Kaye

Nov 4 2010

Date

Chair, Faculty Curriculum Committee

A. Snow

23/11/2010

Date

2 Faculty approval indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/School/Department commits to providing the required Library funds.

Dean or designate

A. Snow

23/11/2010

Date

LIST which other Departments, Schools and Faculties have been consulted regarding the proposed course content, including overlap issues. Attach documentary evidence of responses.

Sent to all Faculties - no negative replies.

Other Faculties approval indicated that the Dean(s) or Designate of other Faculties AFFECTED by the proposed new course support(s) the approval of the new course:

Date

Date

3 SCUS approval indicates that the course has been approved for implementation subject, where appropriate, to financial issues being addressed.

COURSE APPROVED BY SCUS (Chair of SCUS):

Date

APPROVAL IS SIGNIFIED BY DATE AND APPROPRIATE SIGNATURE.

SFU Geography 104: Climate Change, Water and Society

SYLLABUS

Lectures: W 16:30-18:20 AQ 3153 Prof: Owen Hertzman ohertzma@sfu.ca
 Phone: (778) 782-4425 Website with powerpoints :
<http://www.sfu.ca/geography/people/faculty/owenhertzman/index.html#geog102>

	TAs: Laura Guzman (E101-E104): lguzmanf@sfu.ca		Jackie Shrimmer (E105-E106): jshrimmer@sfu.ca		
Tutorials: Wed: 18:30	Thurs: 10:30	11:30	14:30	16:30	17:30
AQ5004	RCB 7102	BLU 10901	AQ 2120	AQ 5027	AQ 5027
E101	E102	E103	E104	E105	E106
Office. Hours; (Guzman)	RCB 7230	Th 1-2	Wed: 3-4	subj to change	
(Schrimmer)	RCB 6221	Th 2-3	(subject to change)		
(Hertzman)	RCB 7223	W 2:30-4	(subject to change)		

"Water is the source of all life, and its nurturer. Its presence has permitted the development of many great civilizations; its absence (sometimes its shockingly sudden absence) has meant the death of many others." - Marq de Villiers
 "Why repeat mistakes when there are so many new ones to make?" - Descartes

A. COURSE AIM and STRUCTURE

This is a Geography course with B (Soc. Sci.) credit. It does not have W or B(Sci.) credit but involves both Writing and Science. Geography exists at the boundary of the Physical, Biological and Earth Sciences, the Social Sciences, and the Humanities. GEOGRAPHERS are pre-occupied with questions of Time and Space, as well as the temporal and spatial relations among various parts of the *Global Ecosystem*. This course attempts to use all of these fields and framework structures to increase your knowledge and understanding of Contemporary World Problems. To those early in your academic career, I hope you will gain respect for various academic fields and perhaps go further into them later in your academic or other life. To those already on an academic path, please bring your understanding (and biases/paradigms) into the tutorials, papers and lectures.

We will study together 3 major problems: one (1) at local Scale, one at regional Scale, and one at Global Scale. The problems are, respectively:

- 1) Runaway Urbanization and its related problems, including Migration and poor Infrastructure;
- 2) The Supply Crisis in Potable Fresh Water; &
- 3) Climate Change (both Natural and Anthropogenic) and the related issues of Global Warming, Drought, Sea Level Rise and Floods.

As part of each general problem, we look at how each affects the ecosystems and people in both the industrialized world (MDC—more developed countries) and the less developed world. (LDC's). We look at how each of the 3 problems interacts with overarching issues such as: *over-consumption, hunger, population increase, environmental degradation & war.*

"Globalization" will be examined as it comes up in each section. Interconnections among the problems will be emphasized, as well as the role of geography and history in particular case studies.

By December it is hoped that each student will recognize how their own and others' current activities contribute to these problems and where we (both individually and collectively) might begin to find partial solutions to the problems. There are NO SACRED COWS HERE!!! Everyone's opinion matters and criticism of the professor's and TAs' positions on issues are welcomed.

B. Required Texts and other Materials

The following 3 required texts will be available from the bookstore. Sections of the texts will form the basis of many of the lectures, while some chapters will be the required readings for the tutorial discussions. Parts of texts 2 and 3 will be used as background for the third project and the Oral Presentation.

TEXT 1)	A Short History of Progress	Ronald Wright	ANANSI	2004
TEXT 2)	Water: The Fate of Our Most Precious Resource (revised 2003)	Marq De Villiers	McLelland and Stewart	
TEXT 3)	Dire Predictions	Mann and Kump	Pearson	

C. Course CREDIT

20%	Tutorials	with	10%	Participation in discussions based on the readings (includes leading a discussion based on the readings)
			10%	Short Oral presentation in a CLIMATE CHANGE International Plenary (including discussion)
45%	Papers	(3,	Each worth 15%)	
35%	Final Exam	December 15	7:00-10:00 pm	
	[You have up to 3 hours to answer a mix of objective and subjective questions.]			

D. PLAGIARISM and REFERENCING:

It is a serious offence at SFU to hand in others' work as your own. Don't even think about doing it. *When referring to others' work, or your own previous work, write a full reference (using any format you wish) and put it in a list of references at the end of your paper.*

In your text, when you refer to that work, either refer to it by name (e.g. (Smith, 1999), or by number (and number your reference list). You may, if you are more comfortable, use a footnote system but you still need a reference list at the end. When referencing WEB sites, you must include the DATE you referenced it, the DATE the material was posted, if available, and any author material that's on the site referring to what you have used (e.g.) author (s), institutions....]

E. ACCESSIBILITY: For any questions /problems related to physical access to any room related to this course (exam or tutorial room or lecture hall) *please email Dr. Hertzman*

F. The Three (3) Written Papers.

These are your chance to do work different from the other students, but in related areas.

→Each paper is worth 15% of the course mark. You will do one on a city, another on a watershed, and a third one on a country. More details will follow in the Tutorials.

→Each has to be no longer than 6 pages double-spaced (or equivalent), plus references, and no more than a total of 3 figures or tables (optional).

→The third paper will provide the material from which you select a few key points for a 2.5 minute presentation in Week 12. Yours and your tutorial classmates' will be discussed by all of you in Week 13.

G. Lectures Wednesday 4:30-6:20 AQ3153

Readings: *relevant to tutorials too* (RW= Wright, V= deVilliers, DP= Dire Predictions)

Dates Topics [SUBJECT TO Addition and Change]

- Sep. 8 General Syllabus, Brief Bio, Main Survival Issues.
What makes a problem a world problem? The Big, Connected Picture among
topics. POWER TRIANGLE; Environ. Impact Expression. RW, Ch. 1
- Sep. 15 Urban (U)1 Rural to Urban migration--WHY? Contrast Canad/Eur./USA with LDC's
Population and Demographics. Water and Energy Budget Basics (?)
RW Ch. 2, V-5, + pp. 306-309
- Sep. 22 U2 Port Mann Bridge Issue (and related road changes). Golden Ears Bridge.
Evergreen line, Rapid Transit extensions to South Shore and UBC & ??
RW Ch. 3-4 (tutorial reading: Hand out)
- Sep. 29 U3 LDC City examples e.g. Lusaka, Mexico City (possible Chinese example)
Other topics TBA RW Ch. 5 (tutorial reading: TBA)
- Oct. 6 U4/Water (W) 1 METRO Vancouver's Livable Region Strategy:
Water Budget/Global, regional and local V 1,2
- Oct. 13 W2 Water as a Resource. Water Quality Dams, including 3 Gorges (China)
Bennett, Peace Canyon and Site C on Peace River in B.C. and others from V.
V 5, 7, 8
- Oct. 20 W3 ARAL SEA case (and others involving overuse &/or abuse of inland water)/
Mining of Water; Water Exports and Imports V 6, 9
- Oct. 27 W4 Middle East (Jordan Valley and Tigris/Euphrates) V-10-11 (parts)
- Nov. 3 CC-1 Natural Climate Variability and History (include basic El Nino)
Climate, Weather and Water--Climate Science
Flooding, Storm Surge and Precipitation Effects (Monsoons)
Readings: DP (XX) plus V 3, 4
- Nov. 10 CC-2 Anthropogenic Climate Change Scenarios, Mitigation and Adaptation
Rio Climate Treaty, KYOTO/Copenhagen, next COP .
Readings: DP (X-Y) plus possible web material.
- Nov. 17 CC-3 Temperature Effects, including the ocean conveyor belt issue.
Effects specific to Canada (esp. North) Readings TBA
- Nov. 24 CC-4 Cap and Trade/ Carbon Tax. 2060's in Canada and the World.
- Dec. 1 S1 Synthesis of the 3 problems, with some Specific Examples.
Course Evaluation. Review for EXAM

Dec. 15 EXAM: 7:00-10:00 PM Location: TBA

DUE DATES for the 3 Papers: Oct. 6-7 Nov. 3-4 and Nov. 24-25

→ MARK THOSE DATES on your electronic and/or paper calendars NOW, please!!!

→ Late penalties: 2% later the same day, plus 5% for each additional day (weekends count as 1 day).

Only medical notes and university athletic, drama/theatrical or other academic course commitments (with documentation) are acceptable to have these penalties waived.

TUTORIAL TOPICS & SCHEDULE [tentative—subject to change]

Week 1	G-1	Sep. 8-9	Intro. to TA and students, Brainstorming of "problems" and skill sets. Paper format/style discussion led by TA. First paper Assignment handed out
Week 2	U-1	Sep. 15-16	Urban Migration and Housing. Types of Migration. Reasons. → CITIES for 1st WRITTEN Papers Assigned
Week 3	U-2	Sep. 22-23	Urban Transportation
Week 4	U-3	Sep. 29-30	Eco-Density Debate: Good Bad or Ugly
Week 5	W-1	Oct. 6-7	Simple calculations of water supply, demand, budget Cool vs Warm countries--similarities/differences.
			In tutorials → First WRITTEN Papers Due. <i>15% of grade</i> → COUNTRIES Assigned for 2nd (watershed) papers!!
Week 6	W-2	Oct. 13-14	Agriculture, Irrigation, Pesticides (PRO/CON), Water Quality
Week 7	W-3	Oct. 20-21	DAMS--Problems or solutions to problems [World Markets]
Week 8	W-4	Oct. 27-28	Country case study from the de Villiers text, WATER and CONFLICT.
Week 9	CC-1	Nov. 3-4	→Third (CC) Assignment Given/Countries Chosen. Winners/losers economically and ecologically; world geography, destructive weather examples Kyoto, COP's (post-) Copenhagen
			In tutorials → Second WRITTEN Papers Due. <i>15% of grade</i>
Week 10		Nov. 10-11	NO TUTORIALS November 11 Holiday
Week 11	CC-2	Nov. 17-18	CC policy and Canadian Regions ... role playing And/or CLIMATE CHANGE and CONFLICT in Africa and SW Asia. (V. 10-12 plus TBA)
Week 12	CC-3	Nov. 24-25	PRESENTATIONS countries' positions <i>7% of grade</i> In tutorials → Third WRITTEN papers due <i>15% of grade</i>
Week 13	CC-4	Dec. 1-2	Discussion of Presentations from Week 12 <i>3% of grade</i>

Here you go, Amanda. Thanks for jogging my memory. All the best, Ivor

Begin forwarded message:

From: Owen Hertzman <ohertzma@sfu.ca>
Date: November 10, 2010 11:41:54 AM PST
To: Ivor Winton <winton@sfu.ca>
Cc: Roger Hayter <hayter@sfu.ca>
Subject: Fwd: New course proposal Geography 104

----- Forwarded Message -----

From: "Leslie Rimmer" <lsrimmer@sfu.ca>
To: "Owen Hertzman" <ohertzma@sfu.ca>
Cc: "Joe Haigh" <jha77@sfu.ca>
Sent: Wednesday, November 10, 2010 11:37:11 AM
Subject: Re: New course proposal Geography 104

Dear Owen,

I have completed the review for your new course proposal, Geog 104, Climate Change, Water and Society, and have determined no additional resources are required for the Burnaby and Vancouver campuses. Should the course be offered at the Surrey campus in the future, we would need to conduct another review. I have added this course to the appropriate list at <http://www.lib.sfu.ca/collections/course-assessments>. This will be proof of Library sign off for you.

Please don't hesitate to contact me should you have any questions.

Regards,

Leslie

SIMON FRASER UNIVERSITY
Senate Committee for Undergraduate Studies
NEW COURSE PROPOSAL

Course Number and Credit units: **REM 321 - 3**

Course Title:

Long - for calendar/schedule no more than 100 characters including spaces/punctuation

ECOLOGICAL ECONOMICS

AND

Short - for registration/transcript no more than 30 characters including spaces/punctuation

ECOLOGICAL ECONOMICS

Indicate number of hours for **Lect (2) Sem () Tut (1) Lab ()**

Course Description (for Calendar). Attach a course outline to this proposal.

Introduces students to the concepts and methods of Ecological Economics. Provides students with grounding in the core principles of conventional economics applied to the environment but then extends this to the integration of economics and ecology to create a new ecological-economic understanding of environmental change and sustainability.

Prerequisite: Minimum of 45 units/credits.

This course is identical to ENV 321 and students cannot take both for credit.

Corequisite: None

Special Instructions

That is, does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses. If so, this should be noted in the pre-requisite.

Course(s) to be dropped if this course is approved: None

Rationale for Introduction of this Course:

This course will be required under the revised Environmental Science program and will serve the needs of SFU students in other FENV programs under development.

For special courses not regularly offered

Scheduling and Registration Information:

Indicate effective **semester/year** course would be first offered and planned **frequency** of offering thereafter.

Fall 2011, as needed

Will this be a required or elective course in the curriculum?

REQUIRED

What is the probable enrolment when offered? ESTIMATE 20-30

Which of your present CFL faculty have the expertise to offer this course?

Various (Duncan Knowler, Mark Jaccard in REM)

Are there any proposed student fees associated with this course other than tuition fees? (if so, attach mandatory supplementary fee approval form) YES NO X

Resource Implications:

Note: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by a library report and, if appropriate, confirmation that funding arrangements have been addressed.

Campus where course will be taught:

Burnaby

Library report status attached. in progress

Provide details on how existing instructional resources will be redistributed to accommodate this new course. For instance, will another course be eliminated or will

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc. None

Approvals

- 1. **Departmental approval** indicates that the Department has approved the content of the course, and has consulted with other Departments and Faculties regarding proposed course content and overlap issues.

[Signature] _____ Date _____
Chair, Dept./School
[Signature] _____ Date _____
Chair, Faculty Curriculum Committee

- 2. **Faculty approval** indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/Department commits to providing the required Library funds.

[Signature] _____ Date: 23/11/2010.
Dean or Designate

List which other Departments Schools and Faculties have been consulted regarding the proposed course content including overlap issues. Attach documentary evidence of responses.

Sent to all Faculties - no negative replies.

Other Faculties approval indicates that the Dean(s) or designate of other Faculties affected by the proposed new course support(s) the approval of the new course.

_____ Date: _____
_____ Date: _____

- 3. **SCUS approval** indicates that the course has been approved for implementation subject, where appropriate, to financial issues being addressed.

Course approved by SCUS (Chair of SCUS)

_____ Date: _____

Approval is signified by date and appropriate signature.

COURSE OUTLINE

Ecological Economics (REM 321-3/ENV-321-3)

Course Name:

Ecological Economics

Instructor:

Duncan Knowler, REM

Prerequisites:

Minimum of 30 credits

Course Description:

This course is an introduction to the concepts and methods of Ecological Economics. As such, it will provide students with grounding in the core principles of conventional economics applied to the environment but then extend this to the integration of economics and ecology to create a new ecological-economic understanding of environmental change and sustainability. Sample topics include: economy as a sub-system of the global ecosystem; economic and ecological dimensions of economic growth and sustainability; basic demand and supply and neoclassical economics; human values, consumer preferences and sustainability; ecosystem goods and services and non-market valuation; economic dimensions of energy and materials management; and the economics of biodiversity, climate change and global dimensions of sustainability. The course consists of two hours of lecture and a one hour tutorial weekly.

Text and Readings:

Ecological Economics: An Introduction, M. Common and S. Stagl. Cambridge University Press (2005), plus supplementary readings as needed.

Proposed Course Evaluation:

1. Tutorials (10%) – Students will be graded on their participation in the weekly tutorial.
2. Assignments (30%) – Two assignments must be completed worth 15% each.
3. Term Project (30%) - Students must prepare a paper of 2500 words maximum.
4. Exam (30%) – Students write a final exam worth 30% of their final mark.

SIMON FRASER UNIVERSITY
Senate Committee for Undergraduate Studies
NEW COURSE PROPOSAL

Course Number and Credit units: **ENV 321 - 3**

Course Title:

Long - for calendar/schedule no more than 100 characters including spaces/punctuation

ECOLOGICAL ECONOMICS

AND

Short - for registration/transcript no more than 30 characters including spaces/punctuation

ECOLOGICAL ECONOMICS

Indicate number of hours for **Lect (2) Sem () Tut (1) Lab ()**

Course Description (for Calendar). Attach a course outline to this proposal.

Introduces students to the concepts and methods of Ecological Economics. Provides students with grounding in the core principles of conventional economics applied to the environment but then extends this to the integration of economics and ecology to create a new ecological-economic understanding of environmental change and sustainability.

Prerequisite: Minimum of 45 units/credits.

This course is identical to REM 321 and Students cannot take both for credit

Corequisite: None

Special Instructions

That is, does this course replicate the content of a previously approved course to such an extent that students should not receive credit for both courses. If so, this should be noted in the pre-requisite.

Course(s) to be dropped if this course is approved: None

Rationale for Introduction of this Course:

This course will be required under the revised Environmental Science program and will serve the needs of SFU students in other FENV programs under development.

For special courses not regularly offered

Scheduling and Registration Information:

Indicate effective **semester/year** course would be first offered and planned **frequency** of offering thereafter.

Fall 2011, as needed

Will this be a required or elective course in the curriculum?

REQUIRED

What is the probable enrolment when offered?

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Which of your present CFL faculty have the expertise to offer this course?

Various (Duncan Knowler, Mark Jaccard in REM)

Are there any proposed student fees associated with this course other than tuition fees? (if so, attach mandatory supplementary fee approval form) YES NO X

Resource Implications:

Note: Senate has approved (S.93-11) that no new course should be approved by Senate until funding has been committed for necessary library materials. Each new course proposal must be accompanied by a library report and, if appropriate, confirmation that funding arrangements have been addressed.

Campus where course will be taught:

Burnaby

Library report status attached. ~~in progress~~

Provide details on how existing instructional resources will be redistributed to accommodate this new course. For instance, will another course be eliminated or will

N/A

List any outstanding resource issues to be addressed prior to implementation: space, laboratory equipment, etc. None

Approvals

- 1. **Departmental approval** indicates that the Department has approved the content of the course, and has consulted with other Departments and Faculties regarding proposed course content and overlap issues.

[Signature] 8 - Nov - 2010
Chair, Dept./School Date

[Signature] 23/11/2010
Chair, Faculty Curriculum Committee Date

- 2. **Faculty approval** indicates that all the necessary course content and overlap concerns have been resolved, and that the Faculty/Department commits to providing the required Library funds.

[Signature] Date: Nov 23/10
Dean or Designate

List which other Departments Schools and Faculties have been consulted regarding the proposed course content including overlap issues. Attach documentary evidence of responses.

Sent to all faculties - no negative replies.

Other Faculties approval indicates that the Dean(s) or designate of other Faculties affected by the proposed new course support(s) the approval of the new course.

____ Date: _____
____ Date: _____

- 3. **SCUS approval** indicates that the course has been approved for implementation subject, where appropriate, to financial issues being addressed.

Course approved by SCUS (Chair of SCUS)

_____ Date: _____

Approval is signified by date and appropriate signature.

COURSE OUTLINE

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Instructor:

Duncan Knowler, REM

Prerequisites:

Minimum of 30 credits

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Text and Readings:

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Proposed Course Evaluation:

1. Tutorials (10%) – Students will be graded on their participation in the weekly tutorial.
2. Assignments (30%) – Two assignments must be completed worth 15% each.
3. Term Project (30%) - Students must prepare a paper of 2500 words maximum.
4. Exam (30%) – Students write a final exam worth 30% of their final mark.

Subject: Re: New Course Proposals for FENV
From: Leslie Rimmer <lsrimmer@sfu.ca>
Date: Tue, 23 Nov 2010 13:01:05 -0800 (PST)
To: djk@sfu.ca
CC: Faculty of Environment Reception <fenvoa@sfu.ca>, scus-group@sfu.ca

Dear Duncan,

I have completed the review for your new course proposals:

DEVS 201-3 "Introduction to Development and Sustainability"
DEVS 401-4 "Issues, Concepts and Cases in Development and Sustainability"
REM 321-3/ENV 321-3 (cross-listed) "Ecological Economics"

There are no additional resources required. I have added these courses to the appropriate list at <http://www.lib.sfu.ca/collections/course-assessments>. As mentioned before, GEOG 104 is also there. This will be proof of Library sign off for you.

Please don't hesitate to contact me should you have any questions.

Best regards,
Leslie

From: "Duncan Knowler" <djk@sfu.ca>
To: scus-group@sfu.ca
Cc: "Faculty of Environment Reception" <fenvoa@sfu.ca>, djk@sfu.ca
Sent: Friday, November 19, 2010 12:35:30 PM
Subject: New Course Proposals for FENV

Dear SCUS colleagues, attached are several courses approved by FENV yesterday for overlap check prior to the next SCUS meeting on Dec 2. Can you please let me know if you have any difficulties with these course proposals. Please copy your reply to Amanda Kellett in our office <fenvoa@sfu.ca>.

The courses are:

DEVS 201-3 "Introduction to Development and Sustainability"
DEVS 401-4 "Issues, Concepts and Cases in Development and Sustainability"
REM 321-3/ENV 321-3 (cross-listed) "Ecological Economics"
GEOG 104-3 "Climate Change, Water, Society"

Note that the third course listed above is the first in a series of what we are calling "Interdisciplinary Service Courses" (we are piloting an Environmental Ethics course with PHIL this term) in that they have only an accumulated credit prerequisite and no specified course prerequisites, allowing them to service EVSC students in particular but other students in FENV programs and around the campus. These courses will be cross listed as an ENV course to provide greater visibility.

Thanks for your inputs,

Duncan

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~~~~~  
Leslie Rimmer