

SIMON FRASER UNIVERSITY

MEMORANDUM

To: Senate
From: Senate Committee
on Undergraduate Studies
Subject: Faculty of Arts -
Certificate in Liberal Arts,
and Breadth Requirements
Date: October 15, 1986

Action undertaken by the Senate Committee on Undergraduate Studies at its meeting of September 30, 1986 gives rise to the following motions:

MOTION 1:

"That Senate approve and recommend approval to the Board of Governors, as set forth in S.86- 56A, the proposed

Certificate in Liberal Arts"

MOTION 2:

"That Senate approve and recommend approval to the Board of Governors, as set forth in S.86-56A , the proposed

Faculty of Arts Breadth Requirements"

Note: The proposal for a Certificate in Liberal Arts is on this agenda subject to approval by the Senate Committee on Academic Planning at a special meeting on Wednesday, October 29, 1986.

SCUS 86-19

SIMON FRASER UNIVERSITY

MEMORANDUM

TO: RON HEATH
SECRETARY SCUS

FROM: E. ALDERSON
ACTING DEAN
FACULTY OF ARTS

DATE: OCTOBER 7, 1986

The attached proposals for a Certificate in Liberal Arts and for revisions to the Faculty of Arts Breadth Requirements have been approved by referendum in the Faculty of Arts. Would you please place them on the Agenda for the Senate Committee on Undergraduate Studies.



Encl.
/mc

Proposed Revision to the Faculty of Arts Breadth Requirements

Attached is a proposed revision to the Faculty of Arts breadth requirements. The proposed changes follow from the Report of the Ad Hoc Committee on Faculty of Arts Requirements that was appointed by Dean Brown in January of 1985. That report, widely discussed within the Faculty, recommended a dual approach to Faculty breadth requirements: first, that the current "Group requirements" be replaced by a somewhat liberalized set of requirements; and second, that an optional Certificate in Liberal Arts be instituted to provide a structured path through those requirements. These revised breadth requirements were put before Senate last January, while the Certificate Program was still under development, but were not approved at that time. Following the Senate action, the Faculty agreed to continue to develop the Certificate Program and to submit the two proposals together.

While the two proposals are not strictly interdependent, they represent a tandem approach to the need for educational breadth among our students. In the Faculty's view, the proposed breadth requirements are workable minimum requirements; they are relatively straightforward and easy to administer, and will insure that students receive a reasonable variety of disciplinary perspectives. The Certificate Program will have the effect of clearly orienting these requirements toward the liberal arts: it will encourage students to take one quarter of the credits required for a degree in courses carefully selected from across the University for their suitability in contributing to a liberal education. The pattern of requirements within the Certificate will insure a broad exposure to the areas of knowledge and methods of inquiry represented in the University. Perhaps most importantly, the Certificate Program will augment the breadth requirements by creating an ongoing structure for attention to liberal education: the guidance to students that was missing under the old "Group Requirements" will now be provided; departments will be encouraged to consider the needs of the general-interest student; the concept of a liberal arts education will be given a specific focus.

The effect of the proposed change will be to replace the entry under "Group Requirements" on page 66 of the current calendar by the "Breadth Requirements" described in the attached. Other requirements--including those for 120 credit hours, 45 upper division hours, the completion of a major or honors program, 30 hours outside the major or honors department, and 70 hours within the Faculty of Arts--will remain unchanged.

PROPOSED CALENDAR ENTRY

**Breadth Requirements
for a
Bachelor of Arts Degree
within
The Faculty of Arts**

In addition to completing the courses within a major department required for a major in the Faculty of Arts, students must complete breadth requirements designed to acquaint them with areas of knowledge and modes of thought outside their discipline of specialization. The requirements are as follows:

1. A minimum of 30 hours outside one's Arts major Department.
2. Courses from at least five departments outside one's Arts major department. No more than 9 credit hours from any one department may be counted toward the total of 30 required hours.

For the purposes of this last requirement the following academic units will count as separate "departments":

Archaeology (ARCH)
Biological Sciences (BISC)
Business Administration (BUS.)
Canadian Studies (Cn.S)
Centre for the Arts (FPA.)
Chemistry (CHEM)
Communication (CMNS)
Computing Science (CMPT)
Criminology (CRIM)
Economics (ECON and BUEC)
Education (EDUC, except EDUC 401, 402, 405, and 406)
Engineering Science (ENSC)
English (ENGL)
Geography (GEOG)
Gerontology (GERO)
History (HIST)
Humanities (HUM.)

Kinesiology (KIN.)
Latin American Studies (LAS.)
Languages, Literatures, and Linguistics (includes all of: CHIN, FREN, GERM,
GRE, ITAL, LATN, LING, LIT., RUSS, SPAN)
Mathematics and Statistics (MATH)
Philosophy (PHIL)
Physics (PHYS)
Political Science (POL.)
Psychology (PSYC)
Sociology and Anthropology (S.A.)
Women's Studies (W.S.)

Students are advised that course enrollment in some of these subjects may be limited to students with concentrations in those subjects. Courses that are not clearly within the above "departments," or courses transferred from other institutions in subject areas without direct equivalence at Simon Fraser may be counted toward these requirements on an individual basis and upon application by the student to the Dean of Arts' office.

These faculty breadth requirements may be met in a variety of ways. In completing them, students are encouraged also to earn a Certificate in Liberal Arts, a program specifically tailored for breadth of learning (see p.). Whether or not they complete the Certificate Program, students may take the Faculty breadth requirements as an opportunity for exploratory study in advance of choosing a major discipline. Some departments will advise students as to subject areas and specific courses they recommend to prepare for their major programs. A substantial proportion of these requirements may also be applied to a number of cross-disciplinary major or minor programs within the Faculty. In planning the most effective way to fulfill the breadth requirements students should seek advice both in the Academic Advice Centre and in any department in which they may be planning to major.

**Proposal
for a
Certificate in Liberal Arts**

This proposal for a Certificate in Liberal Arts has its genesis in planning for revisions to the Faculty of Arts Requirements. Most members of the Faculty of Arts, and many others in the university community, have some familiarity with the sequence of proposals regarding these requirements, dating back to April of 1985. At that time, the Dean's Ad hoc Committee on Faculty of Arts Requirements proposed for discussion the idea that the present "Group Requirements" should be replaced by a mandatory Certificate in Liberal Arts. Following wide discussion, the Ad hoc Committee finally recommended last August that a Certificate in Liberal Arts should provide an optional path through revised Faculty of Arts Breadth Requirements. These new breadth requirements, as revised, were approved by the Faculty of Arts last December. They would require students to take 30 hours of work outside the major department, distributed among 5 different departments, and including no more than 9 hours in any one department, but would eliminate the grouping of departments into "A," "B" and "C" groups.

Because the Certificate proposal required further refinement, and because there was some urgency in revising the Faculty requirements for the Calendar, the revised Breadth Requirements were put forward to Senate last January unaccompanied by the Certificate proposal. At that time, Senate defeated the proposal. Since then, the Certificate proposal has gone through two further stages of development. First, a re-constituted Ad hoc Committee undertook to revise and simplify the structure initially recommended. Then, the FACC referred the proposal to an "Articulation Committee," specially struck to consult with departments in order to recommend the placement of specific courses within the structure. This process has led to the refined version of a Certificate in Liberal Arts now proposed.

The Certificate is intended to provide a clear and attractive approach to breadth of learning, one that is based upon the actual variety of offerings at this university. In tandem with the revised breadth requirements, it will provide both encouragement and guidance to students in rounding out their course of study. It will constitute a clear statement by the Faculty of Arts regarding the desirability of educational breadth, and will provide a mechanism for the ongoing promotion of this aspect of university education. As a separate certification, it will also be available to non-traditional

students who are not seeking a degree within the Faculty of Arts. As now proposed, the Certificate structure is designed to take full advantage of courses from across the university that contribute essentially to a liberal education. It is also designed to seek out and to utilize additional opportunities for the presentation of accessible and valuable material to the generally interested student.

The proposed Calendar entry details the structure of the Certificate. There are, however, three additional matters requiring approval that are discussed below:

1. Course lists

The list of courses qualifying for the Certificate will not appear in the Calendar. Instead, it will be published annually and widely distributed within the university community. In it will appear all those courses approved by Senate for regular inclusion within the Certificate plus courses that are approved by the Faculty of Arts Curriculum Committee only for a single occasion of their offering during that academic year. Such "occasional" courses will be reported to Senate in the same manner as special topics courses.

The list of courses recommended for regular inclusion, together with their recommended placement in the Certificate structure, is appended to this document. This list has been carefully constructed and reviewed, but is subject to discussion and modification up to the time it is accepted by Senate. Thereafter, it will be reviewed annually, with any changes brought to Senate for approval.

It should be anticipated that in any given year this list will be augmented by a number of "occasional" courses. Courses of the following kinds can be expected: a) courses that are highly appropriate for the Certificate, but which are offered only very infrequently; b) special topics and other courses with varying content that might be appropriately placed in the Certificate on the basis of specific content; c) courses that might be offered with a particular emphasis, or with reduced pre-requisites, or by an interested faculty member, especially for the Certificate program; d) initial offerings of courses that might be under development for purposes of the Certificate; or, e) courses proposed by departments from among a variety of potential upper division courses that are more or less equivalent in appropriateness.

2. Transfer and Transition

Questions relating to transfer credit and transitional credit to a new program of this type require resolution. As stipulated in the proposed Calendar entry, it is recommended that transfer credit from other institutions be permitted to count toward the Certificate to a maximum of 15 credit hours. Because the Certificate is not structured along usual departmental divisions, only credit directly "assigned" (Type 1) to a regularly listed course will normally be transferable. In some few instances equity may require the transfer of credit from courses that have no direct equivalent at Simon Fraser or from courses equivalent to "occasionally" listed courses. Any waivers of this kind will require approval of the FACC.

Simon Fraser students who have previously completed a number of courses listed for the Certificate should be able to apply at least some of this credit toward the Certificate at the time when it is formally initiated. Again, it is recommended that only credit for courses regularly listed within the Certificate normally can be so applied. Some few waivers for "occasional" courses may be necessary during the transitional period. Furthermore, in order to avoid an entirely retroactive certification, it is recommended that to earn a Certificate, students should be required to complete at least six hours of credit in listed courses following its initiation.

3. Program Administration

The Certificate program will be administered by a Steering Committee, composed of a Chair, four faculty and two students. The Chair and faculty will be appointed by the Dean, with regard to insuring that a variety of disciplinary orientations are represented on the Committee. Student members are to be nominated by the Student Society, preferably from among students with direct experience of the Certificate program. Appointments to the Committee will be replaced as required, but no term of appointment will exceed three years. Decisions of the Steering Committee regarding course selection, program changes, waivers of requirements, or other matters having policy implications for the program will be presented to the FACC for approval, and forwarded to Senate if it is appropriate to do so. The Dean will arrange for a thorough review of the program within three years following its inauguration, in order to insure that it continues to fulfill the purposes for which it was designed.

Proposed Calendar Entry

Certificate in Liberal Arts

The Certificate in Liberal Arts provides students with a broad exposure to areas of knowledge and methods of inquiry that can be considered essential to a liberal education. It is available to all undergraduate students in the University who desire a program structured for breadth of learning. It may be taken in conjunction with a degree program, or it may be taken by students not currently seeking a degree. Students planning to obtain a B.A. within the Faculty of Arts may choose to complete the Certificate in such a way that most or all of the Faculty of Arts Breadth Requirements are fulfilled by the same courses.

The Certificate in Liberal Arts requires the completion of ten courses, comprising at least 30 credit hours, from among a list of designated courses. These courses, which include both lower division and some upper division courses, have been carefully chosen for their suitability in providing accessible and valuable material for the generally interested student.

The courses that can be applied toward the Certificate in Liberal Arts are listed in 12 sets. Each set includes courses from various departments in the University. In order that the Certificate student will become acquainted with various fields of inquiry and approaches to knowledge, the ten courses required must be distributed across these sets in the manner described below (see "Distribution Requirements"). The sets, together with brief descriptions of the kinds of courses that the student will find in each of them, are as follows:

1. Verbal skills --

These courses are designed to enhance the student's mastery of some basic tools of verbal reasoning and expression. They include courses on writing and critical thinking, and introductory language courses. Students who take an introductory course in a language other than English are strongly urged to complete a second course in that language as part of their Certificate program.

2. The Study of Theory and Theory-Building --

These courses are designed to introduce students to the nature of explanatory systems in various fields of inquiry. They include courses from various disciplines that focus on the dynamics of theory construction and on the historical evolution of theory within that discipline. Courses in this set

will give students some appreciation for the ways in which the processes of reasoning, argument, observation and analysis are included within the development of disciplines.

3. The Analysis of Contemporary Issues --

These courses are designed to examine some current social problems and controversies, emphasizing the application of appropriate conceptual and investigative methods to areas of public concern. Courses in this set will give students some appreciation for the ways in which careful reasoning and disciplinary knowledge can be applied in clarifying the discussion of public issues.

4. The Study of Literature --

These courses are designed to introduce students to important literary works and to ways of understanding literary expression. They include courses on literature written in English and in other languages, as well as literature in translation.

5. Fine and Performing Arts --

These courses are designed to familiarize students with non-literary modes of artistic expression and with important works of art. They include courses on the history and criticism of various arts forms.

6. Studies in Culture and Civilization --

These courses introduce students to the widely-based study of cultures and civilizations. They include courses that consider the development of human values, and that take comparative and interdisciplinary approaches to culture, as well as historical studies that include substantial attention to cultural themes.

7. The Study of Period and Place --

These courses study a spectrum of developments in human society with particular emphasis on their historical or regional particularity, and introduce some of the methods associated with such study. They include courses that focus on regions and regionalism, as well as courses that concentrate on specific historical periods.

8. Foundations of Social Science --

These courses provide an introduction to fundamental concepts and methods of investigation in the various social science disciplines.

9. Social and Behavioural Analysis --

These courses articulate an approach to the study of social structures or to individual or group behaviour and apply that perspective to a particular area of social investigation.

10. Natural Science --

These courses introduce students to methods basic to the natural sciences and to findings in at least one specific science.

11. The Impact of Science and Technology --

These courses investigate the social impact of developments in science, technology, and computational and quantitative methods.

12. Quantitative skills --

These courses will enhance the student's mastery of mathematical skills and tools for quantitative reasoning. They include basic level mathematics and computing courses, and statistics-oriented research methods courses.

Distribution Requirements

Eight of the required 10 courses must be distributed among the above sets as follows:

- two courses drawn from any two of the sets 1-3;
- two courses drawn from any two of the sets 4-6;
- two courses drawn from any two of the sets 7-9;
- two courses drawn from any two of the sets 10-12.

The two additional courses required may be selected from any two sets.

Within these distribution requirements, students are free to select any listed courses, and are encouraged to tailor their choices toward their own academic needs and interests. Credits applied toward this Certificate may not be applied toward any other Simon Fraser University certificate or diploma, but may also be applied toward major or minor program requirements.

Course Lists

The lists of courses within each set are published on an annual basis and are available through Academic Advice and the Office of the Dean of Arts. The lists include both courses regularly approved by Senate for inclusion in the program and "occasional" courses that are approved as Certificate courses only for a single offering.

Students should be aware that some listed courses have pre-requisites. In most such instances the specific course pre-requisites may also be completed within the Certificate program.

Students should also consult the calendar listing and course outline for any course they may be considering in order to understand clearly the nature of the course and any pre-requisites. Some of the listed courses may be very demanding for students without adequate preparation in the subject area. Advice regarding courses and course selection is available through departmental advisors, the office of the Dean of Arts, and the Academic Advice Centre.

Transfer Credit

Transfer credit toward the Certificate in Liberal Arts is permitted to a maximum of 15 credit hours. Normally, only credit that is assigned as directly equivalent to a course regularly listed within the Certificate program may be transferred.

Relation to Faculty of Arts Breadth Requirements

The Faculty of Arts recommends that students planning to major within the Faculty complete the Faculty of Arts Breadth Requirements through the Certificate program. Completion of the Certificate does not exempt students from the Faculty requirements (see p.), but it is readily possible to fill these requirements entirely within the Certificate program.

Courses Recommended for Regular Listing
within the
Certificate in Liberal Arts

SET 1 -- Verbal Skills

ENGL	099	University Writing
	210	Composition
LING	100	Communication and Language
	110	The Wonder of Words
PHIL	001	Critical Thinking
CHIN	100	Mandarin Chinese I
	101	Mandarin Chinese II
FREN	100	Introductory French I
	101	Introductory French II
	110	Reading French I
	111	Reading French II
	151	French I
GERM	102	Introductory German I
	103	Introductory German II
GRE.	100	Ancient Greek
	101	Ancient Greek II
LATN	100	Latin I
	101	Latin II
RUSS	100	Introductory Russian I
	101	Introductory Russian II
SPAN	102	Introductory Spanish I
	103	Introductory Spanish II
	110	Reading Spanish*
	310*	Reading Spanish for the Humanities and Social Sciences

SET 2 -- The Study of Theory and Theory-Building

ECON	208	History of Economic Thought
EDUC	230	Introduction to Philosophy of Education
FPA.	234	Introduction to Film Theory
GEOG	301	Geographic Ideas and Methodology
HIST	300	Approaches to History

*denotes course changes in process, Senate approval pending.

HUM	306	The Philosophical Question of the Humanities
MATH	113	Euclidean Geometry
	144	Introduction to Pure Mathematics
PHIL	100	Knowledge and Reality
	150	History of Philosophy I
	151	History of Philosophy II
	244	Introduction to the Philosophy of Natural and Social Science
	300	Introduction to Philosophy
POL.	111	Political Theory
	211	Political Inquiry
PSYC	201	Research Methods in Psychology
	207	History of Psychology
S.A.	250	Introduction to Sociological Theory
	327	Sociology of Knowledge

SET 3 -- The Analysis of Contemporary Issues

ARC.	201	Fact and Fantasy in Archeology
BISC	003	Ecology and the Population Explosion
CMNS	215	Advertising as Social Communication
	230	Introduction to Communication Media
CN.S	280	Canadian Political Economy
CRIM	131	Introduction to the Criminal Justice System
ECON	102	Twentieth Century Economies
EDUC	240	Social Issues in Education
G.S.	227	On the Seriousness of the Future
GEOG	312	The Geography of Natural Hazards
GERO	300	Introduction to Gerontology
KIN.	110	Current Topics in Human Nutrition
	140	Contemporary Health Issues
PHIL	120	Facts and Values
POL.	121	The Canadian Polity
	212	Political Ideologies
	481	Ethnic Politics and National Identity: Comparative Perspectives
PSYC	106	Social Issues
S.A.	201*	Anthropology of Modern Life
	303	Ethnic Conflicts
SCI.	010	Contemporary Topics in Natural Sciences
W.S.	001	Issues in Women's Health and Health Care
	203	Female Roles in Contemporary Society
	205	Women and Popular Culture

SET 4 -- The Study of Literature

ENGL	101	Introduction to Fiction
	102	Introduction to Poetry
	103	Introduction to Drama
	104	Introduction to the Essay
	221	Canadian Literature
	222	American Literature
	226	Ancient Literature in Translation
	227	Post-Classical Literature in Translation
FREN	230	Introduction to French-Canadian Literature
	240	Introduction to French Literature: Modern French Literature
	341	French-Canadian Literature in Translation
GERM	240	Introduction to German Literary Texts
PHIL	241	Philosophy in Literature
SPAN	240	Introduction to Hispanic Literature
	341	Latin American Literature in Translation

SET 5 -- Fine and Performing Arts

ARC.	301	Prehistoric and Primitive Art
	336	Special Topics in Prehistoric and Primitive Art
FPA.	111	Issues in the Fine and Performing Arts
	127	History of Dance: Origins to the Twentieth Century
	136	The History and Aesthetics of Cinema I
	137	The History and Aesthetics of Cinema II
	140	Introduction to Contemporary Music
	143	The History of Musical Style
	150	Basics of Theatre
	167	Introduction to the History of Modern Art
	328	History of Dance: The Twentieth Century
G.S.	106	Opera
HIST	385	Canadian and B. C. Art
PHIL	242	Philosophy of Art

SET 6 -- Studies in Culture and Civilization

ARC.	272	The Archeology of the Old World
	273	The Archeology of the New World
CNS	210	Foundations of Canadian Culture
FPA.	310	The Arts in Context: The Renaissance
	312	The Arts in Context: Baroque and Enlightenment

SET 6 (cont.)

- FPA. 313 The Arts in Context: Romanticism
314 The Arts in Context: Modernism
315 The Arts in Context: The Contemporary Period
FREN 140 French Civilization
HIST 105 Western Civilization from the Ancient World to the
Reformation Era
106 Western Civilization from the Reformation Era to the 20th
Century
216 The Ancient World
219 Byzantium and the Barbarian West from the Fourth to the
Twelfth Centuries
220 Europe from the Twelfth to the Mid-16th Century
223 Europe from the Mid-16th Century to the French
Revolution
224 Europe from the French Revolution to the 1st World War
225 20th Century Europe
249 The Islamic Tradition in the Middle East
HUM 201* Great Texts in the Humanities I
202* Great Texts in the Humanities II
230 Introduction to Religious Studies
302 The Golden Age of Greece: An Integrated Society
303 The Latin Humanist Tradition
304 Religion in Context
LAS. 140* Pre-Columbian and Hispanic Heritage of Latin America
MATH 180 The History of Mathematics
PHIL 280 Introduction to Existentialism

SET 7 -- The Study of Period and Place

- ARC. 200 Ancient People and Places - Special Topics in World
Prehistory
223 The Prehistory of Canada
CN.S 160 The Social Background of Canada
ECON 101 The Canadian Economy
150 History of Economic Development (A)
152 History of Economic Development (B)
GEOG 262 Canada
263 Selected Regions
375 Historical Geography I
HIST 101 Canada to Confederation
102 Canada since Confederation
104 History of the Americas to 1763

SET 7 (cont.)

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| HIST | 146 | Africa Since the Partition |
| | 151 | The Modern Middle East |
| | 212 | The United States to 1877 |
| | 213 | The United States Since 1877 |
| LAS. | 200 | Introduction to Latin American Issues* |
| POL. | 221 | Introduction to Canadian Government |
| | 222 | Introduction to Canadian Politics |

SET 8 -- Foundations of Social Science

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| ARC. | 101 | Introduction to Archeology |
| BUS. | 270 | Introduction to Organizational Behavior and Decision-Making |
| CMNS | 110 | Introduction to Communication Theory |
| CRIM | 101 | Introduction to Criminology |
| ECON | 200 | Principles of Economics (I) Microeconomic Principles |
| | 205 | Principles of Economics (II) Macroeconomic Principles |
| GEOG | 101 | General Geography |
| | 121 | Economic Geography |
| | 141 | Social Geography |
| | 250 | Cartography I |
| HIST | 202 | B. C. and Confederation: Studies in Historical Method |
| POL. | 100 | Introduction to Politics and Government |
| PSYC | 101 | Introductory Psychology |
| | 105 | Differential Psychology |
| S.A. | 101* | Introduction to Anthropology |
| | 150 | Introduction to Sociology |
| W.S. | 100 | Perspectives on Women: An Introduction to Women's Studies |

SET 9 -- Social and Behavioural Analysis

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|------|-----|---|
| BUS. | 303 | Business in Society |
| CMNS | 221 | Media and Audiences |
| | 341 | Political Communication |
| CRIM | 103 | Psychological Explanations of Criminal and Deviant Behavior |
| | 104 | Sociological Explanations of Criminal and Deviant Behavior |
| | 135 | Introduction to Canadian Law and Legal Institutions: A Criminal Justice Perspective |

SET 9 (cont.)

CRIM	203	Historical Reaction to Crime and Deviance
EDUC	220	Psychological Issues in Education
G.S.	350	Family Development I
	351	Family Development II
HIST	310	Women and the Family in Modern Europe
	311	Education and Childhood in European History
	312	Poverty, Crime, and Madness: Society and the Outcast
KIN.	320	Cultural Aspects of Human Movement
LING	260*	Language, Culture, and Society
POL.	141	Introduction to International Organizations
	152	Introduction to Urban Government and Politics
	231	Introduction to Comparative Government and Politics
	241	Introduction to International Politics
	421	Canadian Foreign Policy
PSYC	280	Biological Bases of Behavior
	320	Cognitive Processes
	351	Child Psychology
	360	Social Psychology
	370	Theories of Personality
S.A.	202	Modern Industrial Society
	203	Comparative Ethnic Relations
	260	Individual and Society
	263*	Peoples of the Third World
	304	Social Control
W.S.	200	Women in Cross-Cultural Perspective
	201	Women in Canada 1600-1920
	202	Women in Canada 1920 to the Present

SET 10 -- Natural Science

ARC.	131	Human Origins
BISC	101	Introduction to Biology
	102	Introduction to Biology
	105	Biology and the Human Species
CHEM	005	The Chemistry of Life
	101	Introductory Chemistry
	104	General Chemistry I
	105	General Chemistry II
GEOG	111	Physical Geography
	112	Introductory Geology
KIN.	100	Introduction to Human Structure and Function
	142	Introduction to Kinesiology

SET 10 (cont.)

- PHYS 100** Introduction to Physics
101 General Physics I
102 General Physics II
181 Introduction to Physical Science in Archeology
197 Periphysical Topics
PSYC 180 Brain and Behavior

SET 11 -- The Impact of Science and Technology

- ARC. 105*** The History of Technology
CHEM 003 Chemistry, Technology and Society
004 Pollution, Energy and Resources
CMNS 130 Explorations in Mass Communication
210 History of Communication
353 The Social Impacts of Information Technology
CMPT 001 Computers and the Activity of People
320 The Social Implications of a Computerized Society
350 Information and Public Policy
HIST 360 The History of Science: The Classical Age to the 18th Century
361 The History of Science: The 18th Century to the Present
W.S. 204 Women, Science and Technology

SET 12 -- Quantitative Skills

- BUEC 232** Elementary Economic and Business Statistics
CMPT 101 Introduction to a High Level Programming Language A
103 Introduction to a High Level Programming Language B
CRIM 120 Research Methods in Criminology
GEOG 251 Methods in Spatial Analysis
MATH 100 Precalculus
101 Introduction to Statistics A
102 Introduction to Statistics B
110 Introductory Mathematics for the Social and Management Sciences
157 Calculus for Social Sciences I (or any introductory calculus course)
PHIL 110 Introduction to Philosophical Concepts and Reasoning
210 Elementary Formal Logic I
POL. 213 Research Methods in Political Science
PSYC 210 Data Analysis in Psychology
S.A. 255 Introduction to Social Research*