Wednesday, January 17, 1979.

The Fifth regular meeting of the Senate of The University of British Columbia for the Session 1978-79 was held on Wednesday, January 17, 1979 at 8.00 p.m. in the Board and Senate Room.

Present: President D. T. Kenny (Chairman), Ms. K. Andrew, Dean J. H. M. Andrews, Mr. J. B. Barnett, Mr. W. H. Birmingham, Mrs. M. F. Bishop, Dr. E. V. Bohn, Dr. C. B. Bourne, Miss M. F. Boyle, Dr. K. T. Brearley, Mr. T. W. Breen, Dr. T. H. Brown, Rev. P. C. Burns, Mr. D. A. Coulson, Dr. J. G. Cragg, Dr. J. Dahlie, Mrs. L. Daniells, Dr. J. D. Dennison, Dr. A. J. Elder, Dr. C. V. Finnegan, Mrs. E. D Fulton, Dean J. A. F. Gardner, Mr. D. Gillespie, Mr. R. H. Goodwin, Ms. P. Gouldstone, Dr. F. R. C. Johnstone, Dr. L. D. Jones, Dean W. D. Kitts, Dr. H. C. Knutson, Mr. J. Kulich, Mr. F. Lee, Dr. D. Lupini, Dean P. A. Lusztig, Dean K. M. Lysyk, Dr. D. J. MacDougall, Ms. C. E. McAndrew, Dr. C. A. McDowell, Dr. J. H. McNeill, Mr. R. K. Miller, Acting Dean A. D. Moore, Mr. I. S. Moss, Mr. C. Niwinski, Dr. R. A. Nodwell, Dr. J. F. Richards, Dean B. E. Riedel, Dr. V. C. Runeckles, Dr. S. O. Russell, Dr. G. G. E. Scudder, Dr. M. Shaw, Dr. J. G. Silver, Mr. D. W. Smith, Dr. R. H. T. Smith, Dr. G. J. Spitler, Mr. K. Suleman, Mr. G. A. Thom, Mr. L. Valg, Dean G. M. Volkoff, Miss C. L. V. Warren, Mr. E. Warren, Dean W. A. Webber, Dean R. M. Will, Dr. M. D. Willman, Dr. J. L. Wisenthal.

Observers: Mr. J. A. Banham

Messages of regret for their inability to attend were received from Chancellor J. V. Clyne, Dean G. S. Beagrie, Dr. A. G. Hannam, Dr. T. D. Heaver, Dr. J. M. Houston, Dr. W. M. Keenlyside, Dean P. A. Larkin, Dr. J. R. Ledsome, Mr. M. M. Ryan, Dr. J. K. Stager, Mr. B. Stuart-Stubbs, Mrs. J. C. Wallace

Minutes of the previous meeting

Dean Gardner)
Dean Kitts)

That the minutes of the Fourth regular meeting of Senate for the Session 1978-79, having been circulated, be taken as read and adopted.

Carried

Prizes, Scholarships and Bursaries

Dean Riedel)
Dean Gardner) That the new awards (listed in Appendix 'A') be accepted subject to the approval of the Board of Governors and that letters of thanks be sent to the donors.

Attention was drawn to the restrictions placed on some of the awards and it was suggested that the list of awards be referred to the ad hoc Student Awards Review Committee before being approved by Senate.

Mr. Goodwin)
Mr. Warren) That the list of awards be referred to the ad hoc Student Awards Review Committee.

It was pointed out that the committee had been established in order to consider the question of policy concerning the acceptance of awards and it was felt that until such policy had been established the granting of these awards should not be delayed.

The motion to refer was lost.

The motion to accept the new awards was put and carried.

Reports of Committees of Senate

Curriculum Committee (See Appendix 'B')

Faculty of Agricultural Sciences

Dr. Wisenthal)
Dean Kitts) That the curriculum proposals submitted by the Faculty of Agricultural Sciences be approved.

Carried

Faculty of Applied Science

Dr. Wisenthal)
Acting Dean Moore) That course changes submitted by the Faculty of Applied Science be approved.

Carried

Faculty of Arts

Dr. Wisenthal informed Senate that a proposal from the Faculty of Arts to offer a Master of Archival Studies program had been referred back to its proposers for reconsideration of the credential since the committee were not convinced that the Master's designation was appropriate.

Reports of Committees of Senate

Curriculum Committee

Faculty of Arts (continued)

The committee recommended approval of new courses and course changes submitted by the Faculty of Arts subject to minor amendments in the wording of some of the course descriptions. In the case of Sociology 318, a proposed introductory statistics course, the committee recommended that the title and description be changed to read the same as that for Mathematics 203. Dr. Wisenthal explained that there was no policy on the teaching of statistics courses for the committee to follow. Sociology 318 had proved particularly contentious and had involved a great deal of discussion and negotiation before agreement had been reached between Sociology and Mathematics. Sociology wanted this introductory course as part of their Third Year Program for pedagogical reasons. They felt that it was the most appropriate time for their students to take statistics. The committee felt that the issue could not be satisfactorily resolved until a campus-wide policy on the teaching of statistics had been established. Therefore, in recommending approval of Sociology 318 the committee added the proviso that in the event that Senate and the relevant Faculties should formulate a policy on the campus-wide teaching of statistics courses, the provision of elementary statistics for Sociology students may be altered.

Dr. Wisenthal)
Dr. Brearley) That the proposals submitted by the Faculty of Arts be approved.

In amendment:

Dean Will)
Dr. Elder) That Sociology 318 be approved for the Academic Year 1979-80 only, and that Senate establish a committee to study and report on the offerings in statistics in the various Departments and Faculties in the University and to report to Senate no later than the October 1979 meeting.

Amendment to the amendment:

Dr. Cragg)
Dr. Smith) That instead of Sociology 318 being approved for one year, that its title and description revert to that approved by the Faculty of Arts with the understanding that the proviso added by the Senate Curriculum Committee would apply.

Lost

The amendment was put and carried.

The motion, as amended, was put and carried.

Reports of Committees of Senate

Curriculum Committee (continued)

Faculty of Commerce and Business Administration

Dr. Wisenthal)
Dean Lusztig) That the proposals submitted by the Faculty of Commerce and Business Administration be approved.

In recommending approval of changes proposed by the Faculty of Commerce and Business Administration the committee requested that the Faculty be asked to consider preparing a statement to the effect that elective courses would be selected with the approval of the Dean.

Dean Lusztig assured Senate that all programs including electives were approved by a designate of the Dean and that a calendar statement to that effect would be prepared.

The motion was put and carried.

Faculty of Education

Dr. Wisenthal)
Dean Andrews) That the proposals submitted by the Faculty of Education be approved.

Carried

Faculty of Forestry

Dr. Wisenthal)
Dean Gardner) That the proposals submitted by the Faculty of Forestry be approved.

Carried

Faculty of Graduate Studies

Dr. Wisenthal)
Dr. Knutson) That the proposals submitted by the Faculty of Graduate Studies be approved.

Carried

It was noted that approval of a calendar statement concerning Graduate Studies Naval Architecture was being withheld pending further information.

Dr. Wisenthal informed Senate that revisions to calendar descriptions of Ph.D., D.M.A., Ed.D., and Master's degrees had been reported to the committee. However, since there were no substantive changes the material was not circulated.

Reports of Committees of Senate

Curriculum Committee

Faculty of Graduate Studies (continued)

Dr. Wisenthal)
Dr. Moore) That the proposal of the Faculty of Graduate Studies to offer an M.Eng. in Clinical Engineering be approved in principle.

Dr. Wisenthal explained that the committee recommended approval of the program in principle subject to the provision of a calendar statement which would be circulated to Senate as soon as it was available.

The motion was put and carried.

Faculty of Medicine

Dr. Wisenthal)
Dr. Webber) That the proposals submitted by the Faculty of Medicine be approved.

Carried

Faculty of Pharmaceutical Sciences

Dr. Wisenthal)
Dean Riedel) That the proposals submitted by the Faculty of Pharmaceutical Sciences be approved.

Carried

Faculty of Science

Dr. Wisenthal)
Dean Volkoff) That the proposals submitted by the Faculty of Science be approved.

Carried

Admissions Committee

Proposals of the Faculty of Education

Dr. Finnegan presented the report. It was explained in the report that at the December 13, 1978 meeting Senate had referred to the Admissions Committee a request that applicants to the Faculty of Education from secondary school be permitted to replace two of the academic elective courses in the ten-course prescribed set of courses related to possible teaching majors such as Home Economics, Music, Industrial Arts.

Reports of Committees of Senate

Admissions Committee

Proposals of the Faculty of Education (continued)

The committee concluded that it would not be a service either to the students or the University to reduce admission requirements below the ten "academic" courses of Grades 11 and 12 that will be mandatory in 1981 and thereafter. The committee were of the opinion that the Faculty could meet its objective by encouraging students planning to take teacher education to include subjects of interest as electives in their secondary school studies. The Faculty should also be in a good position to persuade school counsellors to advise students appropriately.

Dr. Finnegan)
Rev. Burns) That the proposal of the Faculty of Education to amend the admission requirements to permit replacement of academic electives by courses related to teaching majors be rejected.

Concern was expressed that if the proposal were rejected students going into teaching majors such as Home Economics, Music or Industrial Arts would have no high school background in these areas.

Dean Andrews drew Senate's attention to another item on the agenda in which the Admissions Committee were recommending that admission to the Bachelor of Education degree programs in the Faculty of Education follow completion of at least one year of university or college studies. He stated that until that proposal had been discussed by Senate there was no point in debating the matter further.

Dean Andrews)
Dr. Lupini) That the proposal be referred back to the Faculty of Education for reconsideration.

Carried

At the November 15, 1978 meeting Senate referred to the Admissions Committee a request for a revised statement on admission and advancement that would require a 65% minimum average on the best 24 units of courses including English 100 for students transferring into Third Year Education from other institutions or on promotion from Second to Third Year; and a similar standard on 24 units of courses prescribed for the senior years for students in Secondary and Special Education on promotion from Fourth to Fifth year.

Reports of Committees of Senate

Admissions Committee

Proposals of the Faculty of Education (continued)

The committee recommended that the proposal of the Faculty of Education to raise standards on admission and advancement be approved with the statement on "selection" to read as follows:

"In the selection of all candidates for admission academic factors are predominant. Non-academic factors that may influence admission are maturity, experience and indications of suitability for teaching as revealed by writing and speaking ability and by expressed motivation and interest in a teaching career. Selection of candidates for admission is made by majority vote on an admissions committee which represents both professional and academic interests of the Faculty of Education. Preference is given to residents of British Columbia who are either Canadian citizens or landed immigrants."

Dr. Finnegan)
Dean Andrews) That the recommendations of the Admissions Committee be approved.

In amendment:

Dr. Elder)
Mr. Warren) That the sentence " ... Preference is given to residents of British Columbia who are either Canadian citizens or landed immigrants." be deleted.

Carried

In amendment:

Mr. Warren)
Mr. Coulson) That the sentence " ... Non-academic factors ... teaching career." be deleted.

Lost

The motion, as amended, was put and carried.

Admission to the Faculty of Education

The following proposal concerning admission to the Faculty of Education had been circulated:

" In studying recent proposals of the Faculty of Education concerning admission and advancement the Committee concluded that students should not be admitted, in general, to the Faculty of Education directly from secondary school. With the raising of standards within the Faculty the variations in the background of secondary school students make sensible selection more hazardous with the inevitable raising of expectations on the part of some students that are not realizable. The further screening resulting from a year of university or college would benefit the students as well as the university.

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Reports of Committees of Senate

Admissions Committee

Admission to the Faculty of Education (continued)

" A report prepared by a committee of the Joint Board of Teacher Education for submission to the Minister of Education in June 1978, entitled "The Education and Training of Teachers in British Columbia" gave as its first recommendation the raising of admission to Faculties of Education to a year beyond secondary school. The report recommended "that completion of at least one academic year (15 units, five two term courses) in an academic Faculty ... be a prerequisite for admission to a Faculty of Education." The report was obviously concerned with the maturity of applicants. The Senate Admissions Committee concurs with the proposal on the basis of our experience with other professional programs of study on this campus.

The additional year would represent a more homogeneous set of conditions of learning and maturity and would therefore make possible more reliable differentiation among applicants than would be possible on admitting students directly from secondary school.

The Senate Admissions Committee recommends that the proposal which follows be received by Senate at its meeting of January 17, 1979 but not be debated until its meeting of February 14, 1979 by which time the Dean of the Faculty of Education would have the opportunity of presenting the reaction of his Faculty to it.

Proposal

That admission to Bachelor of Education degree programs in the Faculty of Education follow completion of at least one year of university or college studies;

and further,

(i) that the minimum standing in the prerequisite first year university or college be an average of 60% or a gradepoint average of 2.5;

(ii) that special programs such as the Native Indian Teacher Education Program (N.I.T.E.P.) and the Yukon Teacher Education Program be unaltered;

(iii) that courses such as Art Education 100 and Music Education 101 continue to be offered for pre-Education students in other Faculties, with or without credit in these Faculties as the Faculties may determine;

(iv) that the seminar courses Education 197 and 198 be dropped and replaced by a seminar at the next higher year level where emphasis on orientation should be concentrated."

Dr. Finnegan)
Dean Riedel) That the proposal not be discussed until the February 14, 1979 meeting of Senate.

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Reports of Committees of Senate

Admissions Committee

Admission to the Faculty of Education (continued)

Dean Andrews expressed concern that there had been no consultation between the Faculty of Education and the Admissions Committee. He stated that there were important ramifications of which the committee were not aware and that it would take more than a month for the Faculty to report back to Senate on such a proposal.

Dean Andrews)
Dr. Dennison) That the proposal be referred to the Faculty of Education.

The motion to refer was put and carried.

Report of the Tributes Committee

Dr. Bourne presented the report of the Tributes Committee. Members of the gallery were asked to leave.

Memorial Minute

The following memorial statement had been prepared in accordance with the custom of Senate in recognition by the University and the Senate of the late Hector John MacLeod.

IN MEMORIAM

HECTOR JOHN MACLEOD

Dr. Hector John MacLeod, Dean Emeritus of the Faculty of Applied Science, died on November 30th, 1978, at the age of 91.

Born in Prince Edward Island, Dr. MacLeod started his academic career impressively by winning the British Association Medal upon graduating from McGill University in 1914. Further students led to an A.M. and Ph.D. from Harvard in 1921.

He served with distinction and dedication in two wars; first as Captain and Major in the Canadian Expeditionary Forces in France and Belgium during World War I. Following this he commanded the 196th Western Universities Battalion. In World War II he received the Order of the British Empire for his work on ship protection against magnetic mines for the National Research Council.

Dr. MacLeod founded the Department of Electrical Engineering at the University of Alberta, where he was Professor and Head of the Department from 1924 to 1936. At that time he joined The University of British Columbia faculty as Head of the combined Departments of Electrical and Mechanical Engineering. He became Dean of the Faculty of Applied Science in 1950.

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Report of the Tributes Committee

Memorial Minute (continued)

Highly respected by colleagues and students, he possessed a delightful sense of humour; he was known affectionately around the Faculty as "Doc". He managed to combine a distinguished academic career with an extraordinary interest in undergraduate problems and activities that won him many student friends. He was twice Honorary President of the Graduating Class.

For distinguished work in the field of electrical communications he was awarded a Fellowship in the American Institute of Electrical Engineers in 1946. In 1973 he became the fourth recipient of the McNaughton Medal, given by the Canadian Region of the Institute of Electrical and Electronics Engineers for his "pioneering achievement in Electrical Engineering education in Western Canada".

Dr. MacLeod served on the University Senate as a representative of the Faculty of Applied Science from 1942 to 1948, as a representative of the Faculty of Graduate Studies from 1949 to 1950, and as Dean of Applied Science from 1950 until his retirement in 1953.

The University conferred on him the Honorary Degree Doctor of Science in 1956. The Electrical Engineering building bears his name.

Senate extends to Mrs. MacLeod and members of his family its deepest sympathy at his passing.

Dr. Bourne) Dean Volkoff)	That the memorial statement for Hector John MacLeod be spread on the minutes of Senate and that a copy be sent to the relatives of the deceased.

Carried

The meeting adjourned at 10.20 p.m.

The next regular meeting of Senate will be held on Wednesday, February 14, 1979.

Secretary

Confirmed

Chairman

APPENDIX 'A'

New awards recommended to Senate

The Peter Bain Scholarship - Scholarships in the amount of approximately $10,000 per annum have been made available for a ten year period commencing with the 1979–80 academic session. The awards will be made to male students of superior ability who matriculated from secondary schools in the rural areas and in communities in B.C. having a population of not more than five thousand people. The funds have been made available by the late Peter Bain.

The Charles A. and Jane C.A. Banks Bursaries - Bursaries totalling approximately $30,000 per annum have been made available by the late Charles A. Banks. The awards will be made to students demonstrating financial need.

The Edith Barlow Bursary Fund - Bursaries totalling approximately $1,400 per annum have been provided by the late Edith Barlow. The purpose of the fund is to provide assistance for women students of good academic standing and in need of assistance to enable them to continue their studies.

The Dr. A.E.H. Bennett Medical Bursaries - Income from a bequest provided by Dr. A.E.H. Bennett provides bursaries for students in the Faculty of Medicine.

The V.C. Brink Book Prizes - These prizes are awarded annually for outstanding achievement in the essay and other requirements and for leadership in the course Agriculture 300 - Field Trip. They were awarded as the Dean B.A. Eagles Book Prizes from 1950 to 1978 when they were renamed and endowed by Dean and Mrs. Eagles in honour of Dr. Vernon C. Brink, first Director of the Field Trip, on the occasion of his retirement in 1978 as Professor of Agronomy in the Department of Plant Science.

The Mollie Cottingham Scholarship - An annual scholarship in the amount of approximately $450 has been made available by the late Mollie E. Cottingham who retired as Professor Emerita in the Faculty of Education in 1971 after being on the staff of the University for 13 years. The award will be made on the recommendation of the Faculty to a student entering the final year of Elementary or Secondary Education, or the One Year Program for Graduates (Elementary or Secondary), and who is specializing in History and Social Studies.

The Robert C. Gibson Memorial Bursary - One or more perpetual bursaries totalling approximately $750 have been provided in memory of Robert C. Gibson. The awards will be made to assist handicapped students at The University of British Columbia.

The Thomas and Myrtle Gibson Memorial Bursary - A perpetual bursary in the amount of approximately $750 has been provided in memory of Thomas and Myrtle Gibson, long–time residents of Vancouver, British Columbia. The award will be made to a student in the Faculty of Medicine with particular preference for a student demonstrating an interest in the treatment of respiratory diseases.

The I.O.D.E. (Royal Bride Chapter) Bursary - A bursary in the amount of $150 has been made available by the Royal Bride Chapter of the I.O.D.E., Victoria. The award will be made to a female student entering second year of the Faculty of Medicine. In making the award, preference will be given to a student from the Victoria area.

APPENDIX 'A'

New awards recommended to Senate (continued)

The Frank Stanzl Memorial Scholarship - A scholarship in the amount of approximately $350 has been made available by friends and colleagues in memory of Frank Stanzl, whose energy and sensitivity contributed uniquely to the quality of urban architecture in Vancouver. The award will be made to a second year student showing promise in the area of urban design and potential for leadership in the profession of architecture. The award will be made on the recommendation of the School of Architecture and will be based on academic achievement in courses emphasizing urban studies as well as in completed tutorial projects in urban design.

The Sharp Family N.I.T.E.P. Prize - A prize in the amount of $150 will be awarded to the student standing at the head of the Native Indian Teacher Education Program graduating class for the Bachelor of Education (Elementary) degree. The recommendation will be made by the Faculty of Education and will consider students graduating in the spring or in the previous fall.

APPENDIX 'B'

Course and curriculum proposals

FACULTY OF AGRICULTURAL SCIENCES

Summary of changes to Faculty requirements for the B.Sc. (Agr.) Degree

1. Change in the minimum units required for graduation for the B.Sc. (Agr.) from 62 (Major) or 68 (Honours) to 68 units for all students.

2. Concomitant deletion of the Major and Honours course curricula in favour of a single curriculum.

3. Introduction of a scheme for awarding honours standing upon graduation according to grades obtained in the work of the Third and Fourth Years, i.e., on graduation honours standing will be granted to students who obtain an average of at least 80% in the best 33 units of courses selected by the department which meet the requirements of the Third and Fourth Years.

4. Modification of the Agricultural Sciences "core courses" requirement with the result that all students would be required to complete Agricultural Sciences 100 (0), 110 (1½), 300 (1), 410 (1½) and a minimum of 4½ units chosen from courses offered within the Faculty but outside the Department and field in which the student is specializing. The present "core course" requirement is Agricultural Sciences 101 (3), 201 (3), and 300 (1).

5. Introduction of 4½ units of unrestricted electives which may be chosen, to provide additional breadth in agricultural science subjects or in other subject areas, or to provide additional depth in the student's field of specialization or to develop a coherent secondary or minor interest area.

6. Modification of the present requirement for the inclusion of 3 units of "non-science" course work to a requirement for 3 units chosen to broaden the educational base of the program, i.e., students majoring in Agricultural Economics might choose a physical or biological science, all other students would choose humanities or social science courses.

7. Inclusion of Economics 100 and Chemistry 103 or 110 or 120 as a requirement for all students.

New courses	AGSC 100 (0)	Introduction to Agricultural Sciences
	AGSC 110 (1½)	Introduction to Food Production Systems
	AGSC 410 (1½)	Issues and Problems in Food Production Systems
Deletions	AGSC 201 and 400	

Animal Science

New courses	ANSC 414 (1½)	Animal Breeding Applied to Natural Populations
	ANSC 313 (1½)	Principles of Animal Breeding

APPENDIX 'B'

FACULTY OF AGRICULTURAL SCIENCES

Animal Science (continued)

Changes
- ANSC 258 and 323 - change in description
- ANSC 321 - change in description and hours
- ANSC 413 - change in title, description, hours and prerequisite
- ANSC 422 - change in title, description, units (from (3) to (1½)) and hours
- ANSC 418 - change in title and description
- ANSC 213 - change in number (formerly 313) and hours
- ANSC 424 - change in title
- ANSC 316 - change in number (formerly 416)

Deletion
- ANSC 417

Change in program requirements for B.Sc. (Agr.) degree:

The specific changes are: (1) the movement of the first course in genetics from Third Year to Second Year (Animal Science 213), (2) the inclusion of a required course in animal breeding (Animal Science 313), (3) the inclusion of a required course in livestock production (Animal Science 418), and (4) the inclusion of a required course in livestock feeding.

Food Science

Change
- FOOD 258 - change in description

Plant Science

Change
- PLNT 213 - change in number (formerly 313) and hours

Poultry Science

Changes
- POUL 258 - change in description
- POUL 323 - change in description and prerequisite
- POUL 213 - change in number (formerly 313) and hours
- POUL 310 - change in number (formerly 410) title and hours
- POUL 411 - change in title and description

Deletions
- POUL 321 and 422

Soil Science

Change
- SOIL 314 - change in description

FACULTY OF APPLIED SCIENCE

Change
- APSC 160 - change in hours

Chemical Engineering

Change
- CHML 454 - change in units from (2) to (3) and change in description

APPENDIX 'B'

FACULTY OF APPLIED SCIENCE (continued)

Civil Engineering

Changes CIVL 355 and 459 - change in title and description

Changes in Fourth Year Program:

Change "a minimum of 22 or 23 contact hours per week in each term" to "a minimum of 21 units" and require that "students must select their courses before the end of Third Year".

Change "Non Technical elective" to "Free Elective" described as "Any three units of courses in the University including Civil Engineering, subject to prerequisites and approval of the Department.".

Electrical Engineering

Changes
CPSC 251 - change in program to move course from second to first term in Second Year program
ELEC 258 - change in number (formerly 354), title and description
ELEC 353 - change in title, units, hours and description
ELEC 355 - change in hours
ELEC 358 - change in title and description
ELEC 361 - change in units from (2) to (2½) and hours
ELEC 483 - change in title and description

Deletion ELEC 354

Program changes:

Second Year: Math 300 can be taken instead of Math 350 with the approval of the Department.

Third Year: Math 320 can be taken instead of Math 360 and 362 with the approval of the Department.

Fourth Year: Math 300 or 400 level courses may be substituted for the fourth year elective Math 400, subject to prerequisites and approval of the Department.

Mechanical Engineering

Changes
APSC 275 - change in title
MECH 252 - change program name in Calendar course description from Agricultural Engineering to Bio-Resource Engineering
MECH 372 - hours should read (1-3-0; 1-3-0)

Mathematics

Changes MATH 165 and 256 - change in title, description and prerequisite

APPENDIX 'B' (continued)

FACULTY OF ARTS

Anthropology and Sociology

New courses	SOCI 200 (3)	Introduction to Sociology
	SOCI 310 (3)	Canadian Society
	SOCI 318 (1½)	Statistical Methods I
	SOCI 380 (1½)	Introduction to Social Survey Design and Analysis
	SOCI 381 (1½)	Experimental and Laboratory Research Methods in Sociology
	SOCI 382 (1½)	Socio-Ethnographic Research Methods in Sociology
	SOCI 383 (1½)	Methods of Comparative Analysis in Sociology
	SOCI 470 (1½/3)d	Sociology of Crime and Justice

Changes

SOCI 230 - change in number - formerly 200
SOCI 400 - change in number - formerly 370
SOCI 480 - change in number - formerly 350
SOCI 481 - change in number - formerly 351
SOCI 483 - change in number - formerly 300
SOCI 467 - change in number and units, now (1½/3)d (formerly 364 (3))
SOCI 477 - change in number and units, now (1½/3)d (formerly 365 (3))
460, 461, 463, 464, 466 - change in units from (3) to (1½/3)d
ANTH 431 - change in description
SOCI 465 - change in description
SOCI 350 and 410 - change in title and description
SOCI 354 and 475 - change in title

Deletions

SOCI 250, 260, 270, 310-311, 362, 480

Change in departmental requirements for major and honours programs in Sociology:

Major: Second Year - Sociology 200

Third and Fourth Years - At least 15 units of Sociology, including Sociology 310, 318, 350 and at least one of Sociology 380, 381, 382, 383 normally taken in the Third Year. Additional major courses in Anthropology and Sociology taken in consultation with a departmental adviser.

Honours: Second Year - Sociology 200

Admission to Third Year - High second class average in First and Second Years.

Third and Fourth Years - A total of 18 units in Anthropology and Sociology including Sociology 310, 318, 350 and at least one of Sociology 380, 381, 382 or 383 normally taken in Third Year; Sociology 449. Other courses to be chosen with an assigned adviser. Courses outside the Department may be taken towards Honours credit with special permission.

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APPENDIX 'B'

FACULTY OF ARTS (continued)

Asian Studies

New courses	HIND 310 (3)	Accelerated Hindi
	URDU 401 (3)	Readings in Urdu
	HIND 405 (3)	Medieval Hindi
	HIND 410 (3)	Readings in Modern Hindi
	ASIA 355 (3)	Philosophical Tradition of India
	CHIN 305 (3)	Readings in Twentieth Century Chinese Literature
	CHIN 405 (3)	Readings in Early Modern Chinese Literature

Changes
ASIA 350 - add to description "Given in alternate years"
CHIN 300, 410, 411 - change in prerequisite
JAPN 310 - change in title and description

Classics

Changes
CLST 429 - change in title and units from (3) to (1½/3)d
LATN 301 - change in prerequisite
LATN 305 - change in description, prerequisites, hours and number (formerly 425)

Minor revisions to calendar entries for Classics and Classical Studies

Deletions
Classics 110 and 220

Economics

Changes
ECON 429 and 466 - change in prerequisites

English

Change in departmental requirements:

Under "Honours" change calendar entry to read "... 36 units are required in Third and Fourth Years - at least 27 units in English courses and at most 30 units."

Fine Arts

Changes
FINA 251 and 351 - change in title and description
FINA 429 - change in title and units from (3) to (1½/3)d
FINA 451 - change in title

Geography

New courses	GEOG 314 (1½)	Regional Climatology
	GEOG 412 (1½)	Air Pollution Meteorology
	GEOG 413 (1½)	Regional Hydrology
	GEOG 416 (1½)	Slopes

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APPENDIX 'B'

FACULTY OF ARTS

Geography (continued)

Changes	GEOG 311 - change in title
	GEOG 312 - change in title, description, hours and prerequisite
	GEOG 313 - change in description
	GEOG 411 - change in title, description and prerequisite
	GEOG 467 - delete prerequisite

Hispanic and Italian Studies

New course	ITAL 230 (3) Introduction to Italian Civilization
Changes	SPAN 120 - change in prerequisite and number (formerly 110)
	SPAN 200 - change in prerequisite
	SPAN 205 - change in title, description and prerequisite
Deletions	SPAN 371, 477 and 489

New programs in Spanish and Portuguese:

Major and Honours Programs in Spanish and Portuguese

Students wishing to specialize in Spanish may choose to concentrate either on literature or on language. Both recommended programs provide combinations of survey courses and more specialized courses. Other combinations may be approved for individual students who should discuss their needs and interests with the Department advisers.

First and Second Years:

	A	B*	C	D*
Spanish	100	105	120	100
	200	300	205	200, 205

In exceptional circumstances consult Department advisers.
Also recommended: Spanish 211, Portuguese 102, 202.

*Students who have completed Sequence B above, or who have first class standing in Sequence D, proceed to Spanish 400.

Program in Spanish, Portuguese and Latin American Literatures

Major - Third and Fourth Years:

15 units minimum, including the following:

Spanish 300, except for students with Sequence B above, or first class standing in Sequence D, who take Spanish 400.

Two of the following survey courses: Spanish 335, 355, 363.

6 units to be chosen from courses numbered 400 or above in consultation with Department advisers. At least 1½ units must be from a field not covered by the two surveys.

APPENDIX 'B'

FACULTY OF ARTS

New Programs in Spanish and Portuguese:

Program in Spanish, Portuguese and Latin American Literatures (continued)

Honours - Third and Fourth Years:

24 units minimum, including the following:

Spanish 300, except for students with Sequence B above, or first class standing in Sequence D, who take 3 extra units from the recommended electives (see below).

Spanish 400.

Two of the following survey courses: Spanish 335, 355, 363.

9 units to be chosen from courses numbered 400 or above in consultation with Department advisers. At least 1½ units must be from a field not covered by the two surveys.

Spanish 449, Honours Essay.

A reading knowledge of Latin or another Romance language is strongly recommended.

Recommended electives: Spanish 400 (for Majors only where applicable), 403, 407, 444, Portuguese 392.

Recommended electives in History: 350, 351, 450, 451, 489.

Program in Spanish with Emphasis on Language

Major - Third and Fourth Years:

15 units minimum, including the following:

Spanish 300, 400, 403. Students with Sequence B or first class standing in Sequence D omit Spanish 300.

Spanish 407A and 407B or one of the following: Portuguese 102, 202, Spanish 444 (Catalan), Italian 300. Students with Sequence B or first class standing in Sequence D take 407A, 407B and one of Portuguese 102, 202, Spanish 444, Italian 300.

One of the following: Spanish 335 (recommended), 355, 363.

Honours - Third and Fourth Years:

24 units minimum, including the following:

Spanish 300, 400, 403, 407A, 407B. Students with Sequence B or first class standing in Sequence D omit Spanish 300.

One of the following: Portuguese 102, Spanish 444 (Catalan), Italian 300. Students with Sequence B or first class standing in Sequence D must select two of these courses.

6 units of literature, including at least three units selected from the following: Spanish 335 (recommended), 355, 363.

Spanish 449, Honours Essay.

APPENDIX 'B'

FACULTY OF ARTS

New Programs in Spanish and Portuguese

Program in Spanish with Emphasis on Language

Honours - Third and Fourth Years: (continued)

Students are expected to have a reading knowledge of French.

Recommended electives (to be chosen in consultation with Department advisers): Spanish 349; Linguistics 319, 320, 420, 425, 435; English 320, Latin 100.

History

New course	HIST 334 (3) Europe in the 19th Century
Deletions	HIST 332, 412 and 485
Changes	HIST 422 and 423 - change in title

Transfer of courses from the Department of Hispanic and Italian Studies to the Department of History:

History 351 - formerly Spanish 371
History 451 - formerly Spanish 477
History 489 delete cross-listing "see Spanish 489"

Home Economics

New courses	HMEC 200 (1½) Elements of Program Planning HMEC 411 (1½) Applied Human Nutrition

Museum Studies

Insert in Calendar statement that the University Museum of Anthropology offers training in museum principles and methods for both undergraduate and graduate students.

Music

New course	MUSC 163 (1) Contemporary Players
Changes	MUSC 120, 320, 322, 323, 324, 325, 327, 328, 420, 422, 423, 424, 425, 427, 428 - change in units from (3) to (1½/3)c

Philosophy

New course	PHIL 102 (3) Introduction to Logic and Critical Thinking PHIL 355 (3) Philosophical Tradition of India (also listed as Asian Studies 355)

APPENDIX 'B'

FACULTY OF ARTS

Philosophy (continued)

Change in departmental requirements

Requirements for the degree of Bachelor of Arts: Major - Additional units in Third Year and Fourth Year Philosophy courses (exclusive of 350 and 410) or Greek 407 or Classical Studies 436 to bring total of Third and Fourth Year courses to at least 15 units. Only one of Greek 407, Classical Studies 436, Philosophy 323, and Philosophy 355 may be counted toward the 15 unit Major program in Philosophy, except with the permission of the Department.

Requirements for the degree of Bachelor of Arts: Honours - Additional units in Third Year and Fourth Year Philosophy courses (exclusive of 350 and 410) or Greek 407 or Classical Studies 436 to bring total of Third and Fourth Year courses to at least 18 units. Only one of Greek 407, Classical Studies 436, Philosophy 323 and Philosophy 355, may be counted toward the 18 unit Honours program in Philosophy, except with the permission of the Department.

FACULTY OF COMMERCE AND BUSINESS ADMINISTRATION

Changes in curriculum for the B.Com. degree:

Pre-Commerce

Students who apply to enter the Faculty of Commerce and Business Administration must have completed 15 units, including English 100, either Mathematics 130 or Mathematics 100 and 101 and Economics 100. Credit will not be granted for both Mathematics 105 and Commerce 211. Students should note the English composition requirement of the Faculty. Electives may not be taken from courses in Commerce and Business Administration.

First Year Commerce

The first year program for the student who has completed Mathematics 130 only, will consist of Commerce 110, 111, 120, 151, 153, Economics 301 and 302, Computer Science 101; and 3 units of electives chosen from any Faculty other than Commerce.

The first year program for the student who has completed Mathematics 100 and 101 will consist of Commerce 110, 120, 151, 153, Economics 301 and 302, Computer Science 101 and 4½ units of electives chosen from any Faculty other than Commerce.

Second Year Commerce

The Second Year program will consist of Commerce 211, 212, 222, 254, 261, 271, 291, and 6 units of electives chosen from any Faculty other than Commerce. Commerce 241 may be taken as an elective of this year, providing equivalent units are taken outside Commerce in later years. All students are required to complete a non-credit course in Public Speaking. Students who took Mathematics 105 should see the Director of the Undergraduate Program about their courses.

Third and Fourth Year Option Programs

Normally electives in the Third and Fourth Years shall be chosen from courses numbered 300 - level or above. Up to 3 units may be selected from courses at the 200 - level. No courses of the 100 - level may be chosen as electives in the Third or Fourth Years. Electives may be chosen from any Faculty including Commerce, but at least 6 units must be taken outside of Commerce at 300 - level or above.

Wednesday, January 17, 1979.

APPENDIX 'B'

FACULTY OF COMMERCE AND BUSINESS ADMINISTRATION (continued)

New Option

Computer Science - Option 10:

Third Year	Fourth Year
Commerce 322, 331, 391, 356	Commerce 491, 494
Computer Science 220, 315	7½ units from Computer Science 300 level or above (see note)
4½ units of electives (see note)	4½ units from Commerce 300 level or above (see note)
	3 units of electives

Students entering this option will need to take Computer Science 118 and 215 as electives prior to entering Commerce Third Year as they are prerequisites to Computer Science 315.

The required 7½ units from Computer Science and 4½ units from Commerce in the Fourth Year can be taken partially in Third Year.

Students contemplating this option are advised to take Mathematics 221 instead of Commerce 110; they may take Computer Science 115 (3) instead of Computer Science 101 (1½) plus 118 (1½).

New courses	COMM 291 (1)	Business Applications of Computers
	COMM 211 (1½)	Business Applications of Probability
	COMM 212 (1½)	Business Applications of Statistics
	COMM 120 (1½)	Principles of Organizational Behaviour
	COMM 222 (1½)	Management of Organizational Behaviour
	COMM 153 (1½)	Financial Accounting
	COMM 254 (1½)	Management Accounting
	COMM 391 (1½)	Policy Analysis I
	COMM 491 (1½)	Policy Analysis II
	COMM 333 (1½)	Employment Law
Changes	COMM 271 - change in description and units from (2) to (3)	
	COMM 378 and 379 - change in title and description	
	COMM 432 - change in description	
Deletions	COMM 191, 210, 221, 252, 492	

FACULTY OF EDUCATION

New courses	EDUC 308 (1½)	Craft Skills Development
	EDUC 395 (1½/3)	Regional Field Studies in Education

New Concentration

Italian Concentration - for students wishing to complete a concentration in Italian and a second language other than English, French is strongly recommended.

First and Second Years: Italian 100 (3) and 200 (3) or Italian 120 (3) and 220 (3) or Italian 105 (6) or equivalents.

Third and Fourth Years: Italian 302 or 400 and six units in Italian courses numbered 300 or higher.

APPENDIX 'B'

FACULTY OF EDUCATION (continued)

Changes

EDUC 343, 344, 345, 364 - change in description
EDUC 396 - change in description and units from (3/6) to (1½-6)d
EDUC 404 - change in corequisite
EDUC 409 - change in prerequisite
MUED 201 - addition to description
EDUC 462 - change in hours and units from (3) to (1½/3)c
EDUC 465 - change in units from (1½/3) to (1½-6)c
EDUC 487 - change in description

Changes in descriptions under B.Ed. (Elem.) 4th year

Science Education Concentration and Major in B.Ed. (Elem.)
Science Education Concentration
Science Education Major
Earth and Space Science Major in B.Ed. (Secondary)
Industrial Education Program

Program changes:

Diploma in Education of Visually Impaired Children

This program replaces the present Diploma in Education of Children with Learning Disorders and is directed towards the preparation of teachers of children who have learning disorders arising from visual handicaps. The diploma program consists of one year of full-time study (a minimum of twelve units and extensive practica). Successful completion of the diploma program may partially satisfy requirements for teacher certification in British Columbia. The program is made up as follows: required courses: Educ. 305, 314, 315, 415, 421, 424, 455, Ophthalmology 390 and Education 399 (minimum of 180 hours practical teaching). Electives include Education 316, 318, 343, 344, 346, 403, 418, 420, 429, 431, 436, 437, 448, 472, 475. Prerequisite: Educ. 312 or consent of instructor.

Deletion Diploma in Education of Children with Learning Disorders

Diploma in Education of the Deaf

Courses currently listed to be classified as either required or elective. Add Educ. 315, 419, 424 and 448 as electives and delete Educ. 431.

Diploma in Education of the Mentally Retarded

Courses currently listed to be classified as either required or elective. Delete Educ. 417, add Educ. 344 and 346 as required courses and add Educ. 305, 317, 318, 343, 345 and 448 as electives.

Five Year Major in Special Education

Abbreviate paragraph one of Calendar description to read: "The purpose of this program is to prepare teachers to educate mildly handicapped children (mildly intellectually impaired, learning disabled and behaviourally disordered)".

APPENDIX 'B'

FACULTY OF EDUCATION

Program changes: (continued)

Special Education Field Experiences

Change description of Educ. 297 to "Observation, recording behaviour, classroom experience with individuals and groups".

Abbreviate description of field experience under Educ. 397 to "One practicum in May in a special education setting".

A number of changes in the courses scheduled to be taken in particular years were reported.

Mathematics Education Professional Concentration

Change in description and units to bring the program requirements in line with the unit requirements of most other professional concentrations in Elementary Education.

Language Arts Concentration

Description changed to include additional courses to give more flexibility.

FACULTY OF FORESTRY

Wood Science and Industry Program

Change description to read: For Wood Science and Industry interest area a choice of the following courses should be made after consultation with the Faculty adviser: First Year: Chem 205, 230, Comm 151 or 459, 261, Math 200, Second Year: Frst 272 and Phys 155 which should normally be completed by the end of Second Year Forestry.

New courses	FRST 370 (1½)	Wood Anatomy and Properties II
	FRST 371 (3)	Wood Deterioration and Protection
	FRST 484 (1½)	Wood Milling and Machining

Changes

- FRST 272 - change in number, title, description, units from (2) to (1½), and hours (formerly 273)
- FRST 372 - change in number, title, description, units from (2) to (1½), and hours (formerly 373)
- FRST 461 - change in number, description and units from (2) to (1½) (formerly 480)
- FRST 473 - change in number, title, description and prerequisite (formerly 470)
- FRST 487 - change in number, description, units from (2) to (1½), hours and prerequisite (formerly 481)
- FRST 482 - change in title, description, units from (2) to (1½), hours and prerequisite
- FRST 270 and 435 - change in title and description
- FRST 236 - change in description and hours
- FRST 348 - add prerequisite to description
- FRST 499 - change in units from (2/4) to (2) and add prerequisite to description

APPENDIX 'B' (continued)

FACULTY OF GRADUATE STUDIES

Agricultural Economics

Change	AGEC 503 - change in units from (3) to (1½/3)d	

Anthropology & Sociology

New course	ANTH 541 (3)	Advanced Seminar and Workshop on Museum Studies

Applied Science

New courses	APSC 550 (1½)	Biomedical Measurements and Biomaterials
	APSC 552 (1)	Clinical Engineering Seminar
	APSC 554 (3)	Directed Studies in Clinical Engineering

Asian Studies

New courses	ASIA 502 (1½/3)c	Research Methods and Source Materials in Early Vernacular and Modern Chinese Studies
	ASIA 512 (1½/3)c	Advanced Readings in Classical Chinese
	ASIA 514 (1½/3)c	Topics in Early Vernacular and Modern Chinese Literature
	ASIA 522 (1½/3)c	Introduction to kambun kundoku
	ASIA 532 (1½/3)c	Topics in Traditional Japanese Literature
Changes	ASIA 501, 513, 533 - change in title	

Biology

New courses	BIOL 522 (1½)	Seminar in Marine Benthic Ecology
	BIOL 523 (1½)	Marine Benthic Ecology

Botany

New courses	BOTA 501 (1½)	Seminar in Botany
	BOTA 527 (1)	Dynamics of Plant Populations
	BOTA 532 (1½)	Regulation of Plant Growth and Development
	BOTA 533 (1½)	Short Distance Ion Transport
	BOTA 534 (1½)	Long Distance Nutrient Transport
	BOTA 546 (1-6)c	Topics in Botany
Deletions	BOTA 525 and 531	
Changes	BOTA 526 - change in title and units from (3) to (1) BOTA 530 - change in title and units from (3) to (1½)	

Chemical Engineering

Change in wording of course requirements for the M.A.Sc. and M.Eng. degree:

M.A.Sc. Course - Must include Chemical Engineering 598 and at least 9 units of courses approved by the student's supervisor and the Department Head. Normally, the required 9 units will be made up of 6 units chosen from graduate courses within the Department and 3 units of courses outside the Department. Thesis 6 units.

APPENDIX 'B'

FACULTY OF GRADUATE STUDIES

Chemical Engineering

Change in wording of course requirements for the M.A.Sc. and M.Eng. degree: (continued)

M.Eng. Course - Must include Chemical Engineering 598 and at least 15 units of courses approved by the student's adviser and the Department Head. Normally, the required 15 units will be made up of 6 units chosen from graduate courses within the Department, 3 units of courses outside the Department and an additional 6 units chosen from those offered within or outside the Department. An essay of at least 3000 words.

Civil Engineering

New course — CIVL 509 (1) Random Vibrations

Changes
CIVL 507 - change in description and unit value from (1) to (1½)
CIVL 508 - change in description and unit value from (1) to (1½)
CIVL 519 - change in title and description

Commerce

Change — COMM 579 - change in title and description and addition of prerequisites

Economics

New course — ECON 576 (1½) Urban Economics

Education

Changes
EDUC 572 - change in title and description
EDUC 576 - change in title, description and unit value from (3) to (1½-3)d
EDUC 562 - change in title, description and unit value from (1½) to (1½/3)d
EDUC 563 - change in title and description
EDUC 564 - change in title, description and unit value from (3) to (1½)
EDUC 523 - change in unit value from (3) to (1½/3)d

Electrical Engineering

New courses
ELEC 552 (1) Theory of Natural Modes in Multi-Conductor Transmission Lines
ELEC 565 (1) Data Communications
ELEC 593 (1½) Advanced Computer Graphics

Change — ELEC 585 - change in title, description and units from (1½) to (1)

APPENDIX 'B'

FACULTY OF GRADUATE STUDIES (continued)

Food Science

New course FOOD 516 (1) Advanced Environmental Bromatology

Forestry

Changes FRST 530 (3) Multiple Regression Methods - split into two courses, now:
FRST 530 (1½) Multiple Regression Methods
FRST 531 (1½) Multivariate Statistical Methods
FRST 508 - change in description

Geophysics and Astronomy

Deletion 501

Health Care and Epidemiology

Health Services Planning - minor revisions for the M.Sc. program.

Changes HCEP 501 - change in title
HCEP 502 - change in description
HCEP 505 - change in number and description (now 515)
HCEP 512 - change in description
HCEP 503 (1½/3)c Health Service Institutions and their Operation - split into two courses, now:
HCEP 503 (1½) Health Service Institutions and their Operation
HCEP 513 (1½) Health Planning

Mechanical Engineering

Changes MECH 573 - change in units from (1½) to (1) and hours
MECH 574 - change in description and addition of prerequisite

Metallurgy

Change METL 586 - change in title

Mineral Engineering

New courses MINL 555 (1) Rock Mechanics in Practice
MINL 556 (1) Rock Slope Engineering
MINL 557 (1) Underground Stability in Rock
MINL 558 (1) Tunnel Engineering

Music

New course MUSC 563 Contemporary Players

Pharmaceutical Sciences

New course PHAR 543 (1½) Advanced Laboratory in Pharmacology

Changes PHAR 500, 521, 522 - change in description

Physical Education

New courses PHED 564 (1½) Psycho-Social Aspects of Physical Activity
PHED 567 (1½) Human Motor Performance
PHED 562 (1½) Bioenergetics of Physical Activity
PHED 582 (1½) Rise of Modern Sport and Physical Education

APPENDIX 'B'

FACULTY OF GRADUATE STUDIES

Physical Education (continued)

Change — PHED 571 - change in title and description

Physics

New courses
PHYS 500 (1) Electromagnetic Radiation
PHYS 508 (2) Quantum Field Theory
PHYS 514 (1) Classical Field Theory

Changes
PHYS 502 - change in description
PHYS 511, 516, 528, 529, 530 - change in prerequisites
PHYS 518 - change in hours
PHYS 503 and 525 - change in title, description, hours and prerequisites
PHYS 526 - change in units from (2) to (1), description and hours
PHYS 522 - change in title and prerequisite
PHYS 504 - change in number, title, description, hours and prerequisite (formerly 514)

Plant Science

Changes
PLNT 525 (3) Crop Ecophysiology - split into two courses, now:
PLNT 525 (1½) Physiological Origins of Crop Yield
PLNT 526 (1½) Topics in Crop Physiology
PLNT 524 - change in title and description

Slavonic Studies

Change — RUSS 502 - change in units from (3) to (1½/3)d

Spanish

Deletion — Spanish and Portuguese 570-571

FACULTY OF MEDICINE

Anatomy

Change — ANAT 405 - change in description, units from (3) to (1½), hours and prerequisites

Biochemistry

New course — BIOC 400 (3) Human Biochemistry

Health Care and Epidemiology

New course — HCEP 403 (1½) Industrial Hazards to Humans

FACULTY OF PHARMACEUTICAL SCIENCES

Changes
PHAR 320 and 325 - change in title and description
PHAR 426, 440, 448 - change in description

APPENDIX 'B'

FACULTY OF PHARMACEUTICAL SCIENCES (continued)

Deletion PHAR 441

FACULTY OF SCIENCE

Biochemistry

Change in Program:

Honours Biochemistry - in the Fourth Year course listings change "Chemistry 303 (2)" to "Two units from Chemistry 403, 405, 411, 413".

Deletion BIOC 412

Biology

Change BIOL 321 - change in description

Chemistry

New course CHEM 421 (1) Advanced Instrumental Analysis Laboratory

Changes CHEM 303, 304, 313, 330 - change in description
CHEM 311, 321, 417 - change in title and description
CHEM 410 - change in title

Changes in Programs:

Honours and Major Chemistry Programs - in the Third Year course listings for both programs change the statement "Mathematics 301 (or 315 and 316) or an approved elective in Science" to "Mathematics 315 and 316 (or an approved elective in Science)".

Combined Biochemistry and Chemistry Honours Program

In the fourth year course listings:

Change	Chemistry 303	(2)
	**Chemistry Electives	(2)

**To be chosen from Chemistry 312 or one-unit fourth year Chemistry courses (Chemistry 403, 411 and 413 recommended).

to	Chemistry 403	(1)
	**Chemistry Electives	(3)

**To be chosen from Chemistry 312 or one-unit fourth year Chemistry lecture courses (Chemistry 411, 413, 405 and 406 recommended).

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APPENDIX 'B'

FACULTY OF SCIENCE (continued)

Computer Science

Changes

CPSC 321 - change in title, description and prerequisite
CPSC 420 - change in prerequisite
CPSC 422 - change in description and prerequisite

CPSC 402 (3) Numerical Computation II, split into two courses, now:
CPSC 402 (1½) Numerical Linear Algebra
CPSC 403 (1½) Numerical Solution of Ordinary Differential Equations

Changes in Programs:

Honours Computer Science

Change the listing under Third and Fourth Years to read:

Computer Science 302, 315, 321	(7½)
Computer Science 420	(1½)
#Other Computer Science Courses numbered 300 or higher	(10½)
+Mathematics courses numbered 300 or higher	(9)
*Electives	(6)
	(34½)

Computer Science 448 is recommended.
+ Mathematics courses in linear algebra, probability, analysis, differential equations, and statistics are recommended.
* Among them, courses in logic, foundations of Mathematics, and E.E. 256 are strongly recommended.

Combined Honours in Computer Science and Mathematics

Change the listing under Third and Fourth Years to read:

Third Year		Fourth Year	
Computer Science 302+, 315, 321	(7½)	Computer Science 420	(1½)
Other Computer Science course numbered 300 or higher	(1½)	Other Computer Science courses numbered 300 or above	(3)
Mathematics 320 and 300	(6)	Two courses from Mathematics 400, 406, 418, 420, 421, 422, 423, 424, 425, 426	(6)
*Courses from Mathematics 322 or 316/345	(3)	**Electives	(6)
	(18)		(16½)

+May be deferred to the following year.
*At least 6 of these 11 elective units must be in the Faculty of Arts.
**Computer Science 118 and a 1½-unit elective may be substituted by those eligible for Computer Science 118. Special arrangements may be made for a student who did not take Computer Science 115 or 118 in First Year. Such arrangements may limit choice of 400-level courses.

APPENDIX 'B'

FACULTY OF SCIENCE

Computer Science (continued)

Deletions CPSC 320 and 421

Geography

Changes in Programs:

Major Geography

Change to the following:

Geography B.Sc. Major in Physical Geography

First Year		Second Year	
English 100	(3)	Geography 212/213	(3)
Mathematics 100/101	(3)	Geography 200 or 201	(1½)
Physics 110 or 115 or 120	(3)	Mathematics 105/200	(3)
Chemistry 110 or 120	(3)	Computer Science 101	(1½)
Geography 101+	(3)	Geophysics 221 or Chemistry 208	(3)
		Electives*	(3)
	(15)		(15)

Third Year		Fourth Year	
Geography 311 or 312 and 313	(3)	6 units from Geography 410, 411, 412, 413, 414, 416 and Geology 322**	(6)
Geography 345 and 370 or 372	(3)	Electives*	(7½)
3 units from Geography 310** 314, 315, 317, 318**, 366, 462	(3)	Geography 379++	(1½)
Geography 379++	(-)		
Soil Science 200 or Geology 216 or Biology 321	(1½)		
Mathematics 204 or 205	(1½)		
Electives*	(3)		
	(15)		(15)

+Special arrangements may be made for students unable to take this course in first year.

++Field Course students must register in 3rd year; course credited in 4th year.

*Electives must include 4½ units Art Credit and 4½ units upper level Science credit.

**Credit for only one of Geography 310 or 311;
Geography 318 or Geology 322.

APPENDIX 'B'

FACULTY OF SCIENCE

Geography

Changes in Programs: (continued)

Honours-Focus Climatology/Meteorology

First Year		Second Year	
English 100	(3)	Geography 212/213	(3)
Mathematics 100/101	(3)	Geography 200 or 201	(1½)
Physics 110, 115 or 120	(3)	Soil Science 200	(1½)
Chemistry 110 or 120	(3)	Mathematics 200/221	(3)
Geography 101+	(3)	Geophysics 221	(3)
		Computer Science 101	(1½)
		Electives++	(1½)
	(15)		(15)

Third Year		Fourth Year	
Geography 311, 312, 313, 411 or 412*	(6)	Geography 410, 411 or 412*, 413	(4½)
Geography 345/374**	(3)	Geography 379***, 449	(3)
Mathematics 315 and Physics 312	(3)	2 - 2½ units from Physics 421, Oceanography 400, 401, Soil Science 414	(2-2½)
Electives++	(6)	Electives++	(8½-8)
	(18)		(18)

+Special arrangements can be made for students who have been unable to take this course in first year.

*Given in alternate years.

**Students are recommended to take Sect. A.

***Register in 3rd Year credit in 4th Year.

++Electives must include 4½ Arts credit and 3½ - 4 Science numbered 300 or above.

Combined Honours Geography and Geology - Focus Geomorphology

First Year		Second Year	
English 100	(3)	Geography 212/213	(3)
Mathematics 100/101	(3)	Geography 200 or 201	(1½)
Physics 110 or 115 or 120	(3)	Geology 216/226	(3)
Chemistry 110 or 120	(3)	Mathematics 200/221	(3)
Geography 101+ or Geology 105+	(3)	Geophysics 221 or 200 level Chemistry	(3)
		Electives+++	(1½-3)
	(15)		(15-16½)

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APPENDIX 'B'

FACULTY OF SCIENCE

Geography

Changes in Programs:

Combined Honours Geography and Geology - Focus Geomorphology (continued)

Third Year		Fourth Year	
Geography 313 and 414 or 415 *	(3)	Geography 413 and 414 or 415 *	(3)
Geology 210 and 322	(6)	Geology 342 and 415 or 425	(3)
Geography 345/374 **	(3)	Geography 449 or Geology 449	(3)
Geography 370 or Geol. 305	(1½)	Geography 379 *** or Geol. 435	(1½)
Geography 379*** or Geol. 435	(-)	Electives+++	(3-1½)
Mathematics 315 and Physics 312 (or Geol. 315)	(3)	Earth Sciences Electives ++	(3)
Electives +++	(1½)	Geography 417	(1½)
	(18)		(18-16½)

+ Special arrangements can be made for students who have been unable to take this course in first year.

* Given in alternate years.

**Students are recommended to take Section A.

***Register in 3rd year; credit in 4th year.

+++ Electives must include 4½ units Arts Credit and 1½ units Science upper level credit.

++ From approved courses numbered 300 and above in Applied Science, Astronomy, Forestry, Geography, Geological Sciences, Geophysics, Oceanography, Soil Science.

Geological Sciences

New courses

GEOL 125 (1½) The Physical and Chemical Evolution of the Earth

GEOL 206 (1½) Principles of Stratigraphy

Change in Program:

Honours and Major Geology - change the Geology 216 requirement in the Second Year of these programs to Geology 206

Geophysics and Astronomy

New courses

GEOP 120 (1½) Introduction to Pure and Applied Geophysics

ASTR 401 (1½) Stellar Structure and Evolution

ASTR 402 (1½) Topics in Non-Stellar Astronomy

GEOP 426 (1½) Advanced Physics of the Earth

Changes

GEOP 210 - change in description

ASTR 301, 302, 303, 421 - change in prerequisites

GEOP 320, 422, 423, 424, 425 - change in description

GEOP 322 - change in prerequisite and term

GEOP 321 - change in number and description (now 427)

GEOP 449 - change in units from (1½) to (2)

APPENDIX 'B'

FACULTY OF SCIENCE

Geophysics and Astronomy (continued)

Changes in Programs:

Combined Honours in Physics and Astronomy - in the Fourth Year listings for these programs replace the Astronomy 420 (3) requirement by Astronomy 401 (1½) and 402 (1½).

Geophysics Honours

Change to the following:

First Year		Second Year	
Geophysics 120	(1½)	Computer Science 101	(1½)
Geology 125	(1½)	Geology 210	(3)
Chemistry 120 or 110	(3)	Physics 201, 205, 209	(4)
English 100	(3)	Mathematics 200, 220, 221, 315	(6)
Mathematics 100, 101	(3)	Arts Elective	(3)
Physics 120, 115 or 110	(3)		
	(15)		(17½)

Third Year		Fourth Year	
Geology 216	(1½)	Geophysics 449	(2)
Mathematics 201	(1½)	Geophysics 420, 421	(3)
Mathematics 316 (or Physics 312)	(1½)	Geology 314, 320	(4½)
Geophysics 320, 322	(3)	Electives*	(6)
Physics 303, 309	(3)	Geophysics 427 or 426	(1½)
Electives*	(4½)		
Geophysics 426 or 427	(1½)		
	(16½)		(17)

* Include at least 5½ units from upper level Geophysics, Physics, Mathematics or Astronomy courses. Note that some elective Geophysics courses are given only in alternate years.

Geophysics Major

Change to the following:

First Year		Second Year	
Geophysics 120	(1½)	Computer Science 101	(1½)
Geology 125	(1½)	Mathematics 200, 315, 221	(4½)
Chemistry 120 or 110	(3)	Physics 213, 215	(4)
English 100	(3)	Arts Elective	(3)
Mathematics 100, 101	(3)	Electives	(2)
Physics 120, 115 or 110	(3)		
	(15)		(15)

APPENDIX 'B'

FACULTY OF SCIENCE

Geophysics and Astronomy

Change in Programs:

Geophysics Majors (continued)

Third Year		Fourth Year	
Geology 300	(1½)	Geophysics 420, 421	(3)
Mathematics 201	(1½)	Geology 216, 314, 317	(4½)
Geophysics 320, 322	(3)	Electives*	(7½)
Physics 312, 311, 319	(4½)		
Electives*	(4½)		
	(15)		(15)

* Electives must include Geophysics 427 (1½) and at least 5½ units from upper level Geophysics, Physics, Mathematics or Astronomy courses. Note that some elective courses are given only in alternate years.

Honours Astronomy and Geophysics - Focus Planetary Sciences

First Year	Chemistry 110 or 120	3
	English 100	3
	Mathematics 100 and 101	3
	Physics 110, 115 or 120	3
	Geophysics 120 and Geology 125[1]	3
		15
Second Year	Astronomy 200 or Geology 210[2]	3
	Mathematics 200, 201 and 221	4½
	Physics 201, 205, 206 and 209	6
	Arts Elective	3
	Science Elective	1½
		18
Third Year	Astronomy, Geophysics and Geology[3]	6-4½
	Mathematics 315 and 316	3
	Physics 303, 304 and 306	5½
	Arts Elective	3
		17½-16
Fourth Year	Astronomy 449 or Geophysics 449	2
	Astronomy, Geophysics and Geology[3]	7½-9
	Mathematics 300	3
	Physics 401 and 402	3
		15½-17

[1] Geology 105 may be substituted. Special arrangements may be made for students unable to complete this requirement in first year.

[2] Geophysics 210 may be accepted if Geophysics 120 has not been taken.

APPENDIX 'B'

FACULTY OF SCIENCE

Geophysics and Astronomy

Change in Programs:

Honours Astronomy and Geophysics - Focus Planetary Sciences (continued)

[3]Select Astronomy, Geophysics and Geology courses from the following list. Either Astronomy 421 and 431 or Geophysics 422 must be included. The overall minimum requirement of the program is six (6) units of Astronomy, (6) units of Geophysics and four and one half (4½) units of Geology. Note that certain elective Geophysics courses are given only in alternate years.

Astronomy:	301 (1½), 302 (1½), 401 (1½), 402 (1½), 421 (1), 431 (1), 449 (1–3)
Geophysics:	320 (1½), 322 (1½), 420 (1½), 422 (1½), 423 (1½), 424 (1½), 426 (1½), 427 (1½), 449 (2)
Geology:	210 (3), 216 (1½), 305 (1½), 314 (1½), 320 (3), 323 (1½)

Deletions GEOP 220
ASTR 420

Deletion of a Program:

Combined Honours Geophysics and Physics - delete this program and insert Calendar statement that Geophysics students who wish to use their elective units in the Fourth Year towards a concentration in Physics are invited to consult the Head of the Physics Department.

Mathematics

Changes MATH 203 - change in prerequisite
MATH 205 - change in description
MATH 315 and 316 - change in title and description

Deletion MATH 312 and 412

Physics

New courses PHYS 213 (2) Thermodynamics
PHYS 215 (2) Electricity

Changes PHYS 209 - change in description

Change in Program:

Physics Major - in the course listing for Second Year replace Physics 214 and 219 by Physics 213 and 215.

Deletions PHYS 135, 214, 219, 234

Psychology

New courses PSYC 348 (1-3)c Directed Studies in Biopsychology
PSYC 448 (1-3)c Directed Studies in Biopsychology

APPENDIX 'B'

FACULTY OF SCIENCE

Psychology (continued)

Changes in Programs:

Major Psychology Program

First Year[1]		Second Year	
English 100	(3)	Psychology 220	(3)
Mathematics 100/101	(3)	Three units from	(3)
Physics 110 or 115 or 120	(3)	Biology 200 (1½)	
Chemistry 110 or 120	(3)	Biology 201 (1½)	
Biology 101 or 102	(3)	Zoology 203 (1½)	
		Zoology 205 (1½)	
		Arts elective[4]	(3)
		Chemistry 230 or 203	(3)
		Elective[4]	(3)
	(15)		(15)

Third Year		Fourth Year	
Psychology 316	(3)	Six units from	(6)
Psychology 326	(3)	Psychology 407 (3)	
Arts elective[4]	(3)	Psychology 413 (3)	
Science elective[2,4]	(6)	Psychology 416 (3)	
		Psychology elective	(3)
		Elective[3,4]	(3)
		Elective[2,4]	(3)
	(15)		(15)

[1] Psychology 100 recommended if student has prior credit for any of the required courses. Students of exceptional ability may, with permission of the Dean, take 18 units including Psychology 100.

[2] Must be numbered 300 or above and selected in consultation with program adviser.

[3] This elective may be a Psychology course.

[4] Recommended electives: Biochemistry 300 (3), 302 (1½); Biology 321 (1½), 322 (1½), 330 (3), 334 (1½); Chemistry 205 (3); Computer Science 101 (1½), 115 (3), 118 (3), 302 (3); English 301 (1½), 302 (1½); Mathematics 200 (1½), 221 (1½), 304 (1½),318 (3), 344 (1½); Pharmacology 410 (3); Philosophy 214 (3); Physics 234 (2), 326 (3); Physiology 301 (3); Zoology 304 (1½), 306 (1½), 307 (1½), 308 (1½), 323 (1½), 423 (1½), 425 (1½), 430 (1½).

Honours Psychology Program

Change program to read:

First Year	Second Year
As above for Major	As above for Major

Wednesday, January 17, 1979.

APPENDIX 'B'

FACULTY OF SCIENCE

Psychology

Changes in Programs:

Honours Psychology Program (continued)

Third Year	Fourth Year	
As above for Major with addition of Psychology 312 (3)	Psychology 407	(3)
	Psychology 413 or 416	(3)
	Psychology 449	(3)
	Psychology Elective	(3)
	Elective[3,4]	(3)
	Elective[2,4]	(3)
		(18)

Footnotes as for Psychology Major

Zoology

Changes ZOOL 308 and 429 - change in description

Change in Program:

Major Zoology Program - add Zoology 303 to the list of Biology and Zoology courses from which students must select 9 units in Third and Fourth Years.

Deletion ZOOL 310