

nde

Minutes of a Special Meeting of the Faculty Council of Science held on Wednesday, July 19, 1978 at 2:00 p.m. in room 207 Buller Building.

Members Present: R. D. Connor, Chairman; Professors P. K. Isaac, B. D. Macpherson, H. Lees, N. E. R. Campbell, Riaz A. Usmani, P. W. Aitchison, F. J. Ward, H. Halvorson, G. I. Paul, J. Reid, R. G. Woods, K. Mount, Smiley Cheng, R. M. Evans, P. Maeba, Barry Irvine, Peter R. King, L. Burkowski, J. M. Wells, Peter Loewen, Glen Klassen, Isamu Suzuki, C. K. Gupta, Arthur Gerhard, J. Charlton, A. Chow, G. Baldwin, D. N. Burton, A. Olchowecki, C. E. Palmer, T. A. Dick, R. E. Longton, J. A. Wright, N. D. Gupta, R. Venkataraman, Gary R. Smith, P. N. Shivakumar, R. Wong, J. J. Williams, P. D. Loly, D. H. Hall, M. E. Kettner, J. Svenne, H. R. Coish, A. H. Morrish, T. G. Berry, F. M. Arscott, Fred Zeiler, Roy Dowling, R. H. Betts, G. E. Dunn, J. B. Westmore, H. W. Duckworth, Jasper McKee, Douglas A. Young, B. Johnston; G. Richardson, Secretary (57).

Regrets: Mr. G. Thompson, Professors M. Samoiloff, W. van Oers, W. C. Brisbin, D. Johnson.

The Chairman asked Dean Isaac, as chairman of the committee on degrees, to present the report. Dr. Duckworth would present the Executive Committee changes and recommendations.

Dean Isaac began by saying that with the two new programs there would be a redistribution of science students. Those in the major program who would carry on into the Pre-Master's program after completion of the major would be the students who would appropriately choose the 4-year degree. The students remaining in the current major program who present a variety of goals, i.e. Law, educational work and work, and these would likely end up in the 3-year program. In total he said that he did not think there would be a significant change in student numbers. His committee had reached agreement easily on the 4-year program once they recognized the fact that this program resembled the current honours program more than it did the current major. Entry and progress through the program would be monitored much as it is in the honours program.

Dean Isaac then moved that:

"recommendation #1, that the B.Sc. 4-year major program (Appendix A) be proposed to Senate for adoption."

Dr. Duckworth, in explaining the Executive Committee's discussion of Appendix A, said that for purposes of clarification the Executive had recommended a rewording change to line 5 page 1; the change being the deletion of the sentence that began "In most cases....", replacement by:

"Students who desire graduate level training ultimately are advised to pursue the B.Sc. degree with honours in the subject area, however in some departments a major program can be chosen that will provide the background necessary for admission to Graduate Studies."

Since there was no change to the intent of the sentence Dean Isaac said he would accept this change as proposed.

Dr. Duckworth moved on behalf of the Executive Committee an amendment to Appendix A requirement #4 to change it to read:

"at least 6 credit hours must and up to 36 credit hours may be taken outside the Faculty of Science."

The courses from outside the faculty would come from a list of such courses previously approved by the faculty as acceptable for credit. Departments would have the option to suggest and recommend additional courses that were not listed. These additional courses would have to be approved by the faculty committee at a subsequent date as is the practice now regarding the honours program.

The vote was called for and the amendment was CARRIED.

nem. con.

It was at this point in the meeting that it was discovered that the copy of the report made available for Faculty Council was not the correct version. The correct report, that which was discussed by the Executive Committee, was found, copied and distributed to the members.

In answer to the question of transferability of students from the 4-year program to the general and vice versa, Dean Isaac said that his committee had discussed this matter at long length and they ultimately agreed that transfer between the programs would be on the same basis as is done now. Each course

would be assessed on its individual merit, with departmental recommendations being sought by the faculty office. This arrangement was recommended for several reasons; one, because of the significant difference between departmental packages of courses and two, because the committee did not wish to see the general program get the reputation of being the route for failed 4-year program students. Dean Isaac affirmed that this arrangement would be spelt out in the calendar.

In reply to what titles these programs were going to have, Dean Isaac said that he felt the names on the report viz. "B.Sc.(General)" and "4-year Major" would be the names for the present. He said he felt that eventually the "4-year" connotation might be dropped from the latter title.

When questioned about requiring all science students to have a basic core course or even one required Mathematics course, Dean Isaac explained that many of the students registered in Science did not consider themselves as Science students. They were pre-meds, pre-dentistry, etc. He had approached the selection committee of the Faculty of Medicine to get their reaction to including a Mathematics course as one of their required courses for entrance. Their reply was that they were likely to be moving away from all compulsory courses in the near future and turning to the MCAT tests. However Dean Isaac pointed out that of the list of 8 courses required in the general program very few were entirely non-mathematical. As for the 4-year program, it was felt that these courses were controlled by the departments to the extent that if a department wished to make it compulsory, or even just recommend, that their students take a Mathematics course they could easily do this.

Resulting from a request for clarification of section 4 on page 2 that sentence was changed to read "The major ... will be any courses to be applied as in 2 in this section".

The second sentence in the preamble was also felt to be unclear and it was changed to read "It is intended that ... in his/her chosen field".

The vote on the motion was called for and the motion was CARRIED.

nem. con.

Dean Isaac briefly explained recommendation #2 and then moved that:

"recommendation #2, that the B.Sc. General Program (Appendix B) be proposed to Senate for adoption."

Dr. Duckworth said that the Executive Committee had recommended a change to item 3 of Appendix B. It was their recommendation that the requirement of 30 credit hours be changed to 36 credit hours of 200 and 300 level courses. Dr. Duckworth moved this change on behalf of the Executive Committee as an amendment to the original motion.

He explained that this change was not agreed to unanimously by the Executive. The general feeling had been that if the requirement of 30 credit hours remained it would tend to move the program slightly more to the "general" side; if 36 credit hours were chosen the program would be viewed as being slightly more structured. He continued to say that in his own department a package of 3 or 4 courses was felt to be of more value than a package of 2 which would be likely if 30 credit hours were agreed upon (i.e. 3 + 2).

After a brief discussion the vote was called for and the amendment was DEFEATED.

Dr. Svenne said that he was not satisfied with the proposed names for the two new programs and moved (Woods) that:

"the title of the 3-year degree be Bachelor of General Science"

Dr. Hawirko (Loewen) immediately moved that:

"the amendment be deferred".

CARRIED

The deferment was with the understanding that the matter of the titles of the programs would be sent to the Executive Committee for further comment.

With regard to the phasing in of the new programs Dean Isaac said that he felt that as soon as the new degrees were in effect, probably in September 1979, any student enrolment from that point on would be in the new programs. Currently enrolled students would have the option of completing his degree in the current program or changing over to the new program, having met all the conditions. Currently enrolled students would have a limited number of years in which to complete the present degree, much in the same way as the change over from the old

sequence program to the major/minor program had been effected.

The vote was called for and the motion to adopt recommendation #2 was CARRIED, with 1 opposed.

At the last Faculty Council meeting concern had been expressed about the fact that under the new general degree students would be without departmental affiliation, consequently the inclusion of recommendation #3 in the report.

Dean Isaac moved that:

"recommendation #3 be adopted".

Dean Isaac went on to explain that students would be invited to associate with the department of their choice by declaring that department on their registration form, likely at the start of 2nd year. Departments would then receive a list of all these students and it would be up to them as to how they wished to handle them. On the other hand students would be informed that they could go to that department for guidance and academic advice. This was felt by his committee to be better than the current method of affiliation which was through declaration of a major program which in many instances was done at the beginning of third year. This way even students in first year, if they felt so moved, could declare their affiliation.

Because of the great variety of department /student association now, it was seen that some students would receive more departmental concern from some departments than others. Some members felt that this could lead to students declaring their affiliation to the department with the most study space to offer or to the department that offered the most coffee. Dean Isaac admitted that this was a possibility but it was his committee's feeling that this type of association would not occur to any great extent.

With the growing concern of Faculty Council members for some sort of association, or extra help for first year students it was moved McKee (Arscott) that:

"recommendation #3 be deleted and an additional
item put under recommendation #4 stating explicitly
some sort of association for first year students".

DEFEATED

In reply to what affiliation meant Dean Isaac said that it was viewed as

the relationship which now existed between departments and their major students. It would be up to the department to develop this but there was no obligation to do so.

The vote on the motion was called for and the motion was CARRIED.

Although it was deemed to be outside his committee's terms of reference, the points listed under recommendation #4 were felt to be of sufficient concern that the committee felt further consideration by the Faculty should be given to them. Dean Isaac moved that:

"recommendation #4 be adopted".

It was agreed that resulting from the discussion of recommendation #3 an extra point (point f) would be added. Point f would read:

"the affiliation of first year students with some unit(s) of the faculty".

Further discussion of the types of affiliation and development of departmental guidelines for affiliation produced a second extra point, point g:

"the affiliation as mentioned in recommendation #3 be examined and reported upon".

In explaining point b, Dean Isaac said that under certain circumstances a student could conceivably wish to do a package of courses not approved by the faculty and in such instances a committee could, if they felt the package had academic merit, approve it. This would have to be done in advance of the student taking the package.

The vote was called for and recommendation #4 with the addition of points f and g was CARRIED.

Unanimous

As to the disposition of the recommendations it was agreed that #s 1 and 2 be forwarded to Senate and #4 to the Executive Committee of Faculty Council. Recommendation #3 although not specifically disposed of, would provide a basis for the executive committee's discussion of #4.

The second item on the agenda, the proposed Applied Mathematics Minor for Arts students, was explained briefly to council by Dean Macpherson. The changes made by the Executive Committee were pointed out and the possible changes to the

Minor, should the new courses being proposed by the mathematics area be approved, were alluded to. Dean Macpherson concluded by saying that the proposal had been approved by the Executive and was being forwarded to Faculty Council for comment. Should there be no comment or discussion by Council then it would be forwarded to Senate Committee on Curriculum & Course Changes as having Faculty Council approval. There were no comments.

This concluded the items contained in the agenda, the meeting adjourned at 4.13 p.m.

gr/sc

(REPORT AS APPROVED BY FACULTY COUNCIL JULY 19, 1978)

REPORT OF THE COMMITTEE TO CONSIDER THE
SCIENCE DEGREE PROGRAMS.

The committee and its terms of reference were established by Faculty Council at its meeting on April 18, 1978 by the following motion:

"That Council approve in principle a 4-year degree with specialization; and that a committee of departmental representatives be struck to work out details of this program. This committee should also consider the various options concerning the 3-year major program, and bring forward recommendations concerning the future of that degree no later than the first fall meeting of Faculty Council."

Twelve meetings were held.

The committee agreed unanimously to recommend to Faculty Council the B.Sc. 4-year Major Program as set out in Appendix A.

Following agreement on the 4-year Major Program the committee considered the impact its establishment would have upon the existing General Degree. It was felt that those students who were now taking the General Degree because they wished to practice in some field of science but were unable to enter the Honours program would in future be in the 4-year Major program and so a majority of those taking the General program would be doing so either, to provide themselves with a broad training in science which could be used as a base for professional training in another faculty, e.g. Administrative Studies, Education, Law, etc. or to provide a general training complete in itself to enable them to tackle a wide range of jobs without being tied to a particular area of specialization. With increased mobility of the work force and the increased expectation of changing jobs several times in a lifetime it is believed that a broad based scientific training will continue to be useful and appropriate for a large proportion of our students.

The committee felt that the general degree program should ensure breadth of study with introduction to as broad an area of science as practicable, and that the program should ensure enough depth for the student to gain some insight into the nature of scientific study.

The committee felt that these ends are only partially ensured by the structure of the present general degree program. The committee was unanimous in the view that the general degree should contain a requirement to take a range of introductory courses and that depth in an area of concentration should be defined in terms of sets of 200 and 300 level courses prescribed by departments for this purpose. A majority of the committee felt that a general degree program should include such sets from two departments.

The committee spent a considerable time in the numbers game trading off the opposing factors of depth and breadth and trying to decide on the optimum combination of minimum numbers of 200 and 300 level courses to be chosen from each of the two departments. The numbers that were considered were 4 + 0, 4 + 1, 4 + 2, 3 + 3, 3 + 2, and 2 + 2 + 2. The figures 3 + 2 were finally recommended and were approved by a majority.

The committee considered the concern expressed in Faculty Council that elimination of the major from the 3-year General Degree would mean that students would no longer have a base department, and proposes that students be invited to choose a department or departments with which they wish to be affiliated. This would normally occur at the end of first year and would be provided for on the registration form. It is anticipated that the departments chosen by students would normally be those in which senior level courses would be taken. The department with which a student affiliated could relate to that student for academic counselling, and possible service on the departmental council in the same manner as it does at present to its Major students.

The B.Sc. General Degree proposal is outlined in Appendix B.

General Concerns

During its discussions a number of matters were considered by the committee which it recommends to Faculty Council for further study with a view to possible introduction at a later date.

- 1) We believe it would be advantageous to students if the faculty prepared recommended programs or packages of courses that would prepare students for different areas of study or employment.
- 2) It is suggested that the faculty might establish means whereby unconventional programs of study proposed by students might

be vetted and approved. It is realized that this should be approved in advance and is not proposed as a retroactive recovery system.

3) It is further suggested that the faculty might consider the development of senior level courses on the broader aspects of science, that cut across departmental boundaries, such as, the origins of ideas, the social impact of scientific developments, mathematical modelling, to name some suggested, to be taken in 3rd year and introduced as resources permit.

4) The committee is aware of the feeling that the present General degree requirement to limit courses to be taken outside the Faculty to those on an approved list has been too restrictive and recommends that Faculty Council consider the possibility of accepting courses recommended for the purpose by the other faculties. It is realized that where overlap occurs with existing science courses the question of simultaneous credit will arise and feels that in these cases acceptance should be limited to the Science course.

5). The committee gave brief consideration to the question of the availability of service courses to Science students but concluded that, though worthy of consideration on individual basis, the matter went beyond its terms of reference.

Summary of Recommendations

1) That the B.Sc. 4-year Major Program (Appendix A) be proposed to Senate for adoption.

2) That the B.Sc. General Program (Appendix B) be proposed to Senate for adoption.

3) That general students be invited to affiliate with departments of their choice.

4) That further consideration be given to:

a) the preparation of recommended programs of courses,

b) the approval of student initiated programs,

c) the introduction as resources permit of advanced general courses in science

d) the prescription of courses outside the faculty available to Science students

e) the availability of service courses to Science students.

f) the affiliation of 1st year students with some unit(s) of the faculty.

g) the affiliation as mentioned in recommendation #3 be examined and reported upon.

APPENDIX A

B.Sc. 4-Year Major Program

The B.Sc. 4-year Major program is designed to provide in-depth study in a subject or subject areas. It is intended that successful completion of the program of study will enable the individual to function with competence in his/her chosen field. Students who desire graduate level training ultimately are advised to pursue the B.Sc. degree with honours in the subject area, however in some departments a major program can be chosen that will provide the background necessary for admission to Graduate School.

Unlike the Honours program in Science the 4-year Major program may be completed on a part-time basis and will thus open the possibility of specialized undergraduate work in Science to students who have been unable to take a fulltime undergraduate program.

The requirements for the degree are:

1. 120 credit hours (20 full course equivalents)
2. A major program of at least 72 credit hours (12 courses) but not more than 84 credit hours (14 courses) specified by a department, or more than 96 credit hours (16 courses) by two or more departments in a joint program.
3. A department must specify a minimum of 36 credit hours (6 courses) but may not specify more than 60 (10 courses) from its own offerings.
4. At least 6 credit hours must and up to 36 credit hours may be taken outside the Faculty of Science.

Conditions for Entry to and Progress in the 4-Year Major Program

1. Admission Requirements

To enter a 4-year Major program a student must normally have achieved a grade of C+ in at least one Introductory course designated by the Department(s). Departments may however specify higher performance levels in individual courses, or combinations of courses, for entry to the program. In addition, to enter a 4-year Major program a student shall normally have completed at least 30 credit hours and attained at least a grade point average of 2.00 with the G.P.A. computed on all courses attempted.

2. Any student who prior to be admitted to a 4-Year Major program

has completed more than 30 credit hours will be allowed to apply those excess credit hours to the 4-Year Major program which meet the specifications for the program. Such courses to be applied shall be determined in consultation with the Department.

3. Any student who has not completed 30 credit hours but who has otherwise met all the conditions for entry to the 4-Year Major program may be granted permission to enter the program by the Committee on Student Standing upon the recommendation of the appropriate Department(s).

4. Credit Hours required for the 4-year Major Program

The major program shall consist of 90 credit hours in addition to the 30 credit hours required for admission to the program. Included in these 90 credit hours will be any courses to be applied as in 2. in this section.

5. For continuing in the 4-Year Major Program

In order to continue in the program, a student must maintain a GPA computed on all courses applied to, and attempted in, the program of 2.00. Assessment for continuation in the program shall be carried out following the attempting of 60, 75, 90 and 105 credit hours.

In addition, departments may designate individual courses in which specific performance levels are required for continuation.

6. Unsatisfactory Performance

- (a) Failed courses - A student will be allowed failing grades in at most 18 credit hours following admission to the program. A student will be required to repeat those failed courses which are specified as required courses for the program, however with the approval of the department the student may be allowed to substitute a new course for any elective course failed. All cases involving failed courses shall be referred to the Committee on Student Standing.
- (b) Grade Point Average - A student whose Grade Point Average on all attempted courses in the program falls below 2.00 shall not normally be allowed to continue in the program.

APPENDIX B

B.Sc. - General Degree

The Bachelor of Science - General degree is intended to provide a diversified training in Science to the extent that this is possible within a 3 year program. The general degree program may be designed either to be complete in itself, or a suitable basis for further study in other faculties. It is not intended primarily for those students who intend to practice in some field of science, but in most departments is sufficiently flexible to allow the choice of courses that would allow transfer to the 4-year Major program should the students interest develop in that direction.

The requirements for the degree are:

1. 90 credit hours (15 full course equivalents)
2. Within the 90 credit hours offered for the degree 24 credit hours (4 courses) must be chosen from the following courses:
 - i) 2.120 or 2.123
 - ii) 5.221 or 5.231 or 5.120
 - iii) 7.123
 - iv) 13.139 and 13.140 or 13.141
 - v) 13.121
 - vi) 16.120 or 16.121
 - vii) 71.125
 - viii) 74.120 or 74.121 or 74.123
3. 30 credit hours of 200 and 300 level courses from two Science departments with at least 12 credit hours from each department. These credit hours are to be chosen from lists of courses and combinations of courses prepared by the departments as they deem appropriate for this purpose.
4. At least 12 credit hours from courses outside the faculty of Science.
5. A maximum of 42 credit hours from one department and a maximum of 60 credit hours from two departments.
6. Performance levels as in the present B.Sc. - Gen.

N.B. For the purpose of these requirements Astronomy and Mathematics are considered as separate departments.

ndc

THE UNIVERSITY OF MANITOBA

Inter-Departmental Correspondence

DATE July 7, 1978

TO Members of the Faculty Council of Science

FROM G. Richardson, Secretary



SUBJECT:

A Special Meeting of the Science Faculty Council has been called for Wednesday, July 19, 1978 and Wednesday, July 26, 1978 (if necessary) at 2:00 p.m. in Room 207 Buller.

The purpose of these meetings will be to discuss and approve the report of the committee on the Science Degree programs and the minor program in Applied Mathematics for Arts students. The details of these items as approved by the Executive Committee of Faculty Council at its Special Meeting of July 12, 1978 will be delivered to the departmental offices on Monday, July 17, 1978. Extra copies will be available in the Dean's Office and at the Faculty Council meeting.

gr/nl