

THE UNIVERSITY OF BRITISH C OLUMBIA
Vancouver Senate Secretariat
Senate and Curriculum Services
Enrolment Services
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## VANCOUVER SENATE

## MINUTES OF MARCH 17, 1993


#### Abstract

Attendance Present: President D. W. Strangway (Chair), Vice-President D. R. Birch, Mr. S. Alsgard, Dr. A. P. Autor, Mr. J. A. Banfield, Mr. D.'A. C. Boulton, Dean pro tem. M. A. Boyd, Ms. E. Brady, Dr. D. M. Brunette, Mr. B. D. Burgess, Professor E. A. Carty, Dr. R. L. Chase, Dr. S. Cherry, Dr. T. S. Cook, Dr. K. Dawson, Dr. J. D. Dennison, Ms. C. J. Forsythe, Mr. M. A. Fuoss, Mr. E. B. Goehring, Dean M. A. Goldberg, Dean J. R. Grace, Dr. S. E. Grace, Dr. R. D. Guy, Dr. S. W. Hamilton, Rev. J. Hanrahan, Dr. M. Isaacson, Dr. J. G. T. Kelsey, Dr. M. M. Klawe, Mr. O. C. W. Lau, Mr. D. K. Leung, Dr. S. C. Lindstrom, Dr. D. M. Lyster, Mr. D. Makihara, Dean M. P. Marchak, Dean B. C. McBride, Dr. H. McDonald, Dr. J. A. McLean, Dean J. H. McNeill, Dean A. Meisen, Dr. A. G. Mitchell, Mr. J. A. Olynyk, Dr. L. Paszner, Dr. R. J. Patrick, Ms. B. M. Peterson, Rev. W. J. Phillips, Dr. C. Price, Professor R. S. Reid, Dr. P. Resnick, Dean J. F. Richards, Mr. M. M. Ryan, Mr. A. J. Scow, Dr. G. G. E. Scudder, Dr. R. A. Shearer, Dean N. Sheehan, Mr. C. M. Sing, Dr. C. E. Slonecker, Dr. L. de Sobrino, Mr. M. Sugimoto, Dr. R. C. Tees, Mr. G. A. Thom, Dr. J. Vanderstoep, Dr. J. M. Varah, Dr. D. A. Wehrung, Dr. R. M. Will, Dr. D. Ll. Williams, Mr. E. C. H. Woo, Dr. W. C. Wright, Jr.


Regrets: Chancellor L. R. Peterson, Mr. J. D. Adler, Mr. D. A. Anderson, Mr. S. W. Baumber, Dean C. S. Binkley, Professor P. J. Bryden, Dr. D. G. A. Carter, Mr. N. A. Davidson, Mr. W. F. Dick, Dr. G. W. Eaton, Dean M. J. Hollenberg, Mr. W. B. McNulty, Dean C. L. Smith, Dr. L. J. Stan, Dr. W. Uegama, Mr. L. Waldman, Ms. N. E. Woo.

## Minutes of the previous meeting

## Dr. Tees <br> Dean Richards

That the minutes of the fifth regular meeting of Senate for the Session 1992-93, having been circulated, be taken as read and adopted.

It was noted that on page 10496 under Emeritus Status, Dr. H. Jack Hahn should read Dr. H. Jack Hann. Dr. Resnick stated that the word "actions" at the end of the first paragraph on page 10494 should read "actors".

## Chair's Remarks and Related Questions

On behalf of Senate, President Strangway expressed thanks and appreciation to the student senators attending their last meeting. In particular, the President paid tribute to Mr. Orvin Lau who had served on Senate for three years, had initiated the establishment of and co-chaired the Senate Ad Hoc Committee on Teaching Evaluation (1990), and had recently been elected student representative on the Board of Governors.

## Correspondence

The Chair read to Senate a letter of appreciation from the family of the late Dr. Hugh Keenlyside for the letter of sympathy and the memorial minute acknowledging Dr. Keenlyside's contributions to UBC.

## From the Board of Governors

Notification of approval in principle of Senate recommendations - subject, where applicable, to the proviso that none of the programs be implemented without formal reference to the President; and that the Deans and Heads concerned with new programs be asked to indicate the space requirements, if any, of such new programs.
i. Awards (p.10461)
ii. Establishment of a Chair in Computer Engineering (p.10458)
iii. Establishment of a Chair in South-North Studies, the David and Brenda McLean Chair in Canadian Studies, and a Chair in American Studies. (p.10458)
iv. Ratification of recommendations concerning the Biomedical Research Centre. (pp.10459-60)
v. Curriculum proposals from: Applied Science, Agricultural Sciences, Architecture, Arts, Commerce and Business Administration, Dentistry, Education, Forestry, Graduate Studies, Law, Medicine, Pharmaceutical Sciences, Physical Education and Recreation, Rehabilitation Sciences, Science, a new interdisciplinary course in Health Care Ethics, a B.A. in Environmental Studies and a B.Sc. in Environmental Sciences. (pp.10462-77 and 10498-501)

## Report of the University Librarian 1991-92

In speaking to the report, Dr. Patrick, University Librarian, highlighted some of the activities of the Library, and also referred to the future direction and the challenges facing the Library.

Dr. Patrick stated that the framework for the report was the strategic plan developed in 1990-91. A high priority for the Library was to meet with as many of the Faculties as possible, the A.M.S. and the Graduate Student Society to discuss the environmental concepts for the future direction of the Library.

Another priority was to find new sources of money since, with the economy, it was apparent that additional money could not be obtained from traditional sources. It was recognized that new sources of money would have to be found, such as grants, fees for value added services, fees to non UBC users, and fund-raising. Faculties were invited to join with the Library to look at ways of finding the resources to fund the programs that were needed.

Dr. Patrick affirmed that technology was the way to reduce the rate of increasing costs and improving services. Within that framework the Library has been focussing on major strategies each year. In the year of this report the strategy of focussing on technology has been very successful. The Library is now into the second year of its five year plan. Phase I of the redevelopment of the circulation system is complete, and users are happy that they can now move through the checkouts more quickly. Twenty terminals have been added and it is hoped that this number can be increased in the near future. Also, users now have immediate access to what is received but not catalogued and people are more aware of the extreme riches in the microfilm collection. Dr. Patrick also referred to the addition of new electronic databases, remote access to MEDLINE, the upgrading and enhancement of the on-line public access system, and the LDMS migration to UNIX.

Dr. Patrick stated that the Library was focussing on a rigorous review of all of its services to ensure that it is responsive to its users needs and also to explore new services with a view to improving cost-effectiveness and freeing up resources.

Dr. Patrick informed Senate that the design of the Library Centre, Phase I, had been completed and it was hoped that construction would begin by the end of the year.

In conclusion, Dr. Patrick expressed thanks and appreciation to members of the Senate Library Committee, Deans, faculty, staff and students, in acknowledging the contributions of those involved in the accomplishments of the Library.

## Reports of Committees of Senate

## ADMISSIONS COMMITTEE

Dr. Will, Chair of the Committee, reported to Senate on the following items:
a) Enrolment quotas for 1993-94

Dr. Will reminded Senate that in February 1970, Senate passed a motion indicating that this University had an optimum size beyond which it did not wish to go. The figures which were agreed to at that time were 22,000 undergraduates and 5,500 graduate students. The Mission of The University of British Columbia, published by President Kenny in 1979 , identified as a realistic objective to achieve by 1990 a graduate enrolment of at least 6,000. Second to None, President Strangway's Mission Statement and Strategic Plan, adopted ten years later, reaffirmed the goal of enrolling 6,000 graduate students. In 1985/86, the University, faced with stretched budgets, needed to reinforce its approach to control the growth of the overall enrolment of the University within the above limits. In that year, the Faculty of Arts was the first Faculty to impose a quota. The purpose at that time was to try to keep the total enrolment of the University within the maximum numbers approved by the Senate. The Faculty of Science followed in 1987 with a quota. With those quotas we were able to keep the growth of enrolment in the late '80s under reasonable control.

Dr. Will went on to explain that when a quota is established for entry from Grade 12 there is a built in problem because as the demand for places increases, the gpa rises and the promotion rate increases, and in time the overall numbers rise even faster. Tight management of the quota was not very successful at first because the Faculty of Arts had several ways in which one could get admitted. Despite the fact that budgets continued to be stretched, the quota numbers were not altered. The Faculty of Science dealt with the problem by controlling the total enrolment in the four undergraduate years and changed the quota as required. Since 1987, therefore, there have been several reductions in the quota in Science, not to reduce the total number of students, but to keep the total under control.

Dr. Will noted that today's enrolment was somewhere in the region of 31,000 , well over the quota established by Senate. This was partly due to the decision of the Faculty of Arts to accommodate as many students as possible, and partly to the increase in the number of part-time students. Dr. Will explained that the figure of 31,000 was based on head counts as opposed to full-time equivalents (FTE's). Using FTE numbers the count was approximately 26,800 . He stated that the policy approved by Senate and what the Admissions Committee had attempted to do was to contain overall enrolments within the figure approved by Senate. In spite of this the enrolment targets had been exceeded.

In referring to the enrolment quotas circulated at the meeting, Dr. Will drew attention to the recommended reduction in the Faculty of Arts quota from 1500 to 1450. In an effort to minimize the effect of this reduction on grade 12 entries, the Faculty of

Arts proposed that mature students be advised to complete one or two years at a college. It was also noted in the material circulated that the quotas for Years 2, 3 and 4 would be administered in such a way as to increase the places available to students at B.C. colleges. Accordingly, approximately $50 \%$ of transfers into Years 2, 3 and 4 will be admitted on the basis of gpa only. The remaining transfers into Years 2,3 and 4 will be reserved for students applying from B.C. colleges and university-colleges. Reservation of half the places for college and university-college students entering Years 2, 3 and 4 will increase transfers from this source from 392 in 1992-93 to approximately 590 in 1993-94.

The Faculty of Science also proposed a reduction in their first year admissions, from 1200 to 1100 . The Faculty proposed a quota of 250 for transfers to Year 2 and a quota of 150 for transfers to Year 3. It was noted in the material circulated that the Faculty of Science had not previously had a quota on transfers from other institutions and other Faculties at UBC but that these two quotas, together, exceeded the number of transfers in 1992-93 by 35. In recommending these quotas, the Admissions Committee suggested strongly that the Faculty of Science explore the possibility of internal management of enrolments, with quotas on specific programs, if necessary, as a means of increasing its capacity to accommodate undergraduate students.

The Faculty of Agricultural Sciences imposed a quota of 150 for the first time last year in the event that students who were not able to get into the Faculty of Science would apply for admission to the Faculty of Agricultural Sciences. After reviewing the situation and based on the number of students admitted last year, the Faculty of Agricultural Sciences proposed that the correct figure should be 125 for 1993-94.

The Faculty of Commerce and Business Administration proposed that the quota of 395 be reduced to 360 , and that a quota of 100 be created for students entering Year 2 of the program. The Faculty of Education proposed to take in 10 more students. The quota of 350 for the B.Ed. (Elementary) was being increased to 360 and divided into 216 for the B.Ed. (Elementary 12 months) and 144 for the B.Ed. (Elementary 2 years).

Reports of Committees of Senate

| Faculties | 1987-88 | 1988-89 | 1989-90 | 1990-91 | 1991-92 | 1992-93 | 1993-94 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Arts |  |  |  |  |  |  |  |
| $1^{\text {st }}$ Year | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1450* |
| $2^{\text {nd }}$ Year | 450 | 450 | 450 | 450 | 450 | 450 | 450 |
| $3{ }^{\text {rd }}$ Year | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| Ag. Sc. | n/a | n/a | n/a | n/a | n/a | n/a | 125* |
| Applied Science $1^{\text {st }}$ Year | 450 | 450 | 450 | 450 | 450 | 450 | 450 |
| $2^{\text {nd }}$ Year | n/a | n/a | n/a | n/a | n/a | n/a | 513** |
| Architecture | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| Audiology \& Speech Sciences | 20 | 25 | 25 | 30 | 30 | 30 | 30 |
| Commerce \& Business Administration Year 1 | 390 | 390 | 395 | 395 | 395 | 395 | 360* |
| Year 2 |  |  |  |  |  |  | 100 |
| Dentistry DMD | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| $\begin{aligned} & \hline \text { B.D.Sc. (1992 } \\ & \text { New Program) } \\ & \hline \end{aligned}$ | - | - | - | - | - | 10* | 10 |
| Education <br> B.Ed (Elem. <br> 12mth) | 125 | 225 | 290 | 414 | 336 | 350* | 216*/*** |
| B.Ed. (Elem 2yr) |  |  |  |  |  |  | 144* |
| B.Ed (Sec.) | 120 | 165 | 220 | 330 | 355 | 355 | 355*** |
| B.Ed. (Elem.) NITEP | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| Family \& Nutritional Sciences | n/a | n/a |  | 36 | 36 | 36 | 36 |
| Forestry | n/a | n/a | n/a | n/a | n/a | n/a | 85 |
| Law | 240 | 240 | 240 | 240 | 240 | 240 | 240 |
| Library Archival \& Information Studies | 45 | 60 | 57 | 62 | 70 | 70 | 70 |
| Medicine | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| Music $1^{\text {st }} \text { Year }$ | 56 | 67 | 60 | 60 | 56 |  |  |
| $2^{\text {nd }} \& 3^{\text {rd }}$ Year | n/a | 33 | 32 | 44 | 30 | 250* | 250 |
| $4^{\text {th }}$ Year | - | - | - | - | - |  |  |
| Nursing | 80 | 80 | 160 | 160 | 160 | 160 | 160 |
| Pharm Sc. | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| Phys. Ed. \& Rec. $1^{\text {st }}$ Year | n/a | n/a | 65 | 65 | 65 | 65 | 65 |
| $2^{\text {nd }}$ Year | n/a | n/a | 60 | 60 | 60 | 60 | 60 |
| $3{ }^{\text {rd }}$ Year | n/a | n/a | 45 | 45 | 45 | 45 | 45 |
| Rehabilitation Medicine O.T.. | 24 | 30 | 35 | 35 | 35 | 35 | 35 |
| P.T | 26 | 30 | 35 | 35 | 35 | 35 | 35 |
| $\begin{array}{ll} \hline \text { Science } & \\ & 1^{\text {st }} \text { year } \\ \hline \end{array}$ | 1400 | 1400 | 1312 | 1312 | 1312 | 1200* | 1100** |
| $2^{\text {nd }}$ year |  |  |  |  |  |  | 250* |
| $3^{\text {rd }}$ year |  |  |  |  |  |  | 150* |
| Social Work Post B.A. $1^{\text {st }}$ year | 35 | 35 | 35 | 30 | - | - | - |
| Post B.A. $2^{\text {nd }}$ year | 35 | 35 | 55 | 50 | - | - | - |
| B.S.W. | 30 | 30 | 12 | 30 | 85* | 60* | 75 |

[^0]$\left.\begin{array}{l}\text { Dr. Will } \\ \text { Dean Goldberg }\end{array}\right\} \begin{aligned} & \text { That the enrolment quotas for 1993/94 be } \\ & \text { approved. }\end{aligned}$ Dr. Dennison expressed concern that the Faculty of Arts was proposing that the category of mature students be effectively eliminated. He stated that this would create the impression that admission to first year at UBC is restricted to high school graduates. He felt that it was important to recognize that there is a small number of highly motivated mature students, mostly women, who would benefit by coming directly to UBC.

Dr. Birch pointed out that $60 \%$ of students admitted under the mature student category over the last four years were women and stated that this was a very important group. He suggested that the Senate Admissions Committee should look very carefully at ways of developing strategies for discretionary admissions which are aimed at recruiting those people who are less advantaged in society. Dr. Birch expressed concern that reducing quotas was being done through the mature student category at the rate of 50 students a year for four years. He expressed the hope that the Faculties and the Senate Admissions Committee would address the larger issue of ways in which the University can mitigate rather than exacerbate its role in reproducing inequalities in society.

There was considerable discussion concerning the proposed mechanism for reducing the enrolment in the Faculty of Arts. Dr. Klawe stated that the inference was that mature students are less likely to succeed whereas studies indicate the contrary.

Ms. Forsythe, student senator, stated that, in her opinion, the campus was already hostile to non-traditional students such as disabled students, native students, and mature students and cutting back on the mature student category was not going to improve this situation, particularly as the trend is that people are coming back to university in order to obtain the qualifications required to progress in their careers. Ms. Forsythe thought that the message being sent to the public was not at all encouraging. Mr. Olynyk, student senator, also spoke against the proposed mechanism for reducing enrolment in the Faculty of Arts stating that the University benefits from the contributions made by mature students.

Dr. Birch stated that on the basis of studies undertaken, it is the case that high school gpa on graduation has no correlation at all with achievement in first year university for those students who have been out of high school for more than two years and although it is not a perfect predictor it is the best single predictor the University has. However, for those students who have been out for more than two years, the motivation, the commitment, and the interest are far more potent determinants of their achievement than a high school gpa. Dr. Birch observed that in establishing a mature student category, the University had consciously established a social and educational policy.

## IN AMENDMENT:

$\left.\left.\begin{array}{l}\text { Dr. Wehrung } \\ M r . \text { Olynyk }\end{array}\right\} \begin{array}{l}\text { That the enrolment quota for the Faculty of } \\ \text { Arts be revised from } 1500 \text { to } 1450 \text {, as } \\ \text { recommended, and that the transfers into } \\ \text { second, third and fourth years be as stated, but } \\ \text { that it be referred back to the Senate }\end{array}\right\} \begin{aligned} & \text { Admissions Committee to re-examine the } \\ & \text { mechanism for reducing the quota. }\end{aligned}$
Carried.

After further discussion the motion, as amended, was put and carried.
b) Faculty of Medicine - change in prerequisites for admission A proposal that Mathematics and Physics be dropped from the prerequisites for admission to the Faculty of Medicine had been circulated. It was stated in the material circulated that the Faculty of Medicine decided that most students would take Physics and Mathematics because they are interested in the subjects and because they need them in order to write the MCAT and in order to succeed in Science. Dropping these two subjects as prerequisites, however, would allow more Arts students to apply to Medicine.

In recommending approval of the proposal, Dr. Will explained that Dalhousie University, McMaster University, and the University of Calgary have no prerequisites whatsoever for admission to the Medical Faculty, and that Physics was not a requirement for admission at six other Canadian universities. Also, there are ten universities that do not require Mathematics as a prerequisite for admission, and the University of Toronto does not require either Physics or Mathematics.

Dr. Will stated that in considering this proposal the Admissions Committee had consulted with the Associate Dean of Admissions in the Faculty of Medicine and had been assured that the lack of these two prerequisites would not in any way interfere with or deter a student from doing courses within the Faculty of Medicine.

Dr. Will That Mathematics and Physics be dropped
Mr. Banfield $\}$ from the prerequisites for admission to the Faculty of Medicine, and that the Faculty report to Senate within three years on the impact of this change.
Dr. Williams expressed regret at this recommendation for several reasons. He stated that he favoured having more Arts students enter Medicine and felt that they were quite capable of handling Physics and Mathematics. He cited examples of

Arts students who had done extremely well in basic Physics courses. He also expressed concern that without Mathematics the amount of statistics a student could comprehend would be rather limited.

Dr. Autor spoke strongly against the motion, and whilst agreeing that medicine is a humanitarian as well as a scientific endeavour she felt that the proposal was retrogressive. She explained that at the turn of the century the medical profession underwent a great examination because too many of those who were granted permission to practice medicine had no scientific and mathematical background. If this was the kind of medicine that was not being properly practiced then, how, she asked, is it going to be practiced in a technologically advanced society where one could be both mathematically and scientifically illiterate.

Speaking in support of the proposal, Dr. Slonecker stated that the vast majority of students will continue to come into Medicine from Science and that no student will be able to take Science at UBC without a mathematics course and a physics course. Even those students from a non-Science area such as Arts or Commerce would still be required to take four prerequisites: English, Inorganic Chemistry, Organic Chemistry and Biochemistry. He also pointed out that although students would not have to fulfil a requirement for first year university level Mathematics and Physics courses the MCAT requirement ensures that students will have some knowledge of Physics and Mathematics.

Dean McBride spoke against the motion stating that non-Science students might not have taken Physics 11 or 12 and their last Mathematics course might have been Mathematics 11. He drew attention to the fact that next year the Faculty of Science would be offering a 3-credit physics course and that this would be a better alternative than no Physics whatsoever.

Dr. Dawson spoke in favour of the motion. He stated that the shift of medicine had been dramatic in the last 25 years into the areas of Biochemistry, Chemistry, Molecular Biology. He stated that although all of those areas do have some necessity for mathematical abilities it was his experience that students do have significant mathematical capabilities even at the high school level. Dr. Dawson stated that what was more significant was the amount of reading required, and the amount of intelligent analysis of documents which requires a vast amount of reading and skills in the English language. Dr. Dawson stated that in all deference to the physics he had taken he would never use it again. He felt, however, that there was a real need for a humanistic approach and that the ability to read was of particular importance.

After further discussion the motion was put and carried.

## ENGLISH REQUIREMENT

The Committee recommended approval of a proposal from the Faculty of Medicine to change the English requirement since English 100 is no longer offered.
$\left.\begin{array}{l}\text { Dr. Will } \\ \text { Dr. Vanderstoep }\end{array}\right\} \begin{aligned} & \text { That two of English } 110,111,112,120 \text { and } \\ & 121, \text { with English } 112 \text { recommended, replace } \\ & \text { English } 100 \text { as a prerequisite. }\end{aligned}$
Carried.

## ELECTIONS COMMITTEE

Dr. Hamilton, Chair of the Committee, presented the following report which had been circulated for information:

The Senate Committee on Elections met to consider an appeal relating to the election of a full time employee (who is not a faculty member) to the Board of Governors.
Six alleged election irregularities were cited in the appeal.

1. The AAPS sponsored an "all candidates meeting: which should have been organized by the University rather than AAPS, and this meeting should have been "organized in a responsible and timely way".
2. Individual unions on campus held meetings to hear the views of candidates from their own union, but they did not invite candidates from other unions.
3. Members of a union were responsible for handling the distribution of ballots. At the same time the union responsible for the handling of the election had members running for election.
4. It appeared the election ballots were "being counted during the election". In fact the returned ballots were being sent to data processing for entry while the election was still in process.
5. The ballots were tabulated without providing candidates, or their representatives, with an opportunity to be present.
6. Not all eligible voters received their ballots. The appellant specifically cited four cases where members of his union claimed not to have received their ballots. They were subsequently supplied with a duplicate ballot.
In considering the appeal, the Committee addressed three questions.
7. Was there any breach of the stated policies and procedures governing the election?
8. Did any of the activities for which the University was responsible disadvantage the particular candidate?
9. If there were any irregularities, is it likely they altered the election results?

The Committee concluded there was no breach of election policies or procedures. The Committee further concludes that the activities of the University did not disadvantage any particular candidate. Since the Committee concluded there was no breach of policies and procedures and that the activities of the University did not disadvantage any particular candidate, it was not necessary to address the third question.
The Committee therefore recommends that the election results be declared valid and the successful candidate be so notified.

Dr. Hamilton stated that he had been requested to raise a point concerning item 4. and the charge that election ballots were being counted during the election. It was found that the returned ballots were simply being keypunched in an effort to speed up the delivery of the election results. There was no evidence submitted that any count was released at any time prior to the end of the ballot period but the Committee suggests that the Coordinator of Elections might reflect upon the practice of keypunching during the ballot election period.

## COMMITTEE ON STUDENT AWARDS

In presenting the report, Dr. Cook, Chair of the Committee, informed Senate that the Lily Schajer Memorial Bursary had been withdrawn. Dr. Cook also drew attention to the Westcoast Energy Inc. Jack Davis Scholarship in Energy Studies in the amount of \$2,400 in memory of the Honourable Jack Davis, and two scholarships endowed by Brenda and David McLean to honour Bob Hindmarch, the former Director of Athletics and Sports Services.
\(\left.\begin{array}{l}Dr. Cook <br>

Dean McBride\end{array}\right\}\)| That the new awards (listed in the Appendix) |
| :--- |
| be accepted subject to the approval of the |
| Board of Governors and that letters of thanks |
| be sent to the donors. |

## Carried.

## LIBRARY COMMITTEE

Dr. Grace, Chair of the Committee, spoke briefly to the following report, which was circulated at the meeting, highlighting in particular the estimated shortfall of approximately $\$ 500,000$ due to inflation in serials, the proposed short-term measures, and the request for the replenishment of the Stabilization Fund.

At the October 1992 meeting of Senate, in response to news of a forthcoming announcement (UBC Library News, 34.1992 - " $\$ 1$ Million Serials at Risk!") that the Library was projecting drastic cuts to its serials collection, Dr. Robert Will asked the Senate Library Committee to report back to Senate explaining its proposed plan for dealing with these projected cuts.

Since October 1992, the Senate Library Committee has been involved in very lengthy and serious discussions of this problem. On behalf of the Committee, I made a preliminary report to Senate at its December meeting and I am now able to present a detailed report.

Over the last four and one-half months, the Senate Library Committee has received considerable detailed financial information from the University Librarian and her senior librarians. We have also received petitions and letters from concerned faculty and students, and we have listened to representations from faculty and students who have asked to meet with the Committee.

I would like to take this opportunity, on behalf of the Committee, to thank publicly all those who have come forward. Perhaps I could particularly acknowledge the graduate students who, in the midst of their studies, have made the time to understand this complex issue and to express their concerns to Senate. (Circulated with this statement is a copy of an item from The Graduate, March 6, 1993, for your information.)

## Background

The Library's Collections budget is $\$ 6.5$ million. Based on a Senate decision this budget has been divided since the mid 1970s between monograph and serials acquisitions at a $35 \%$ to $65 \%$ ratio, a policy which the current Senate Library Committee acknowledges and re-affirms.
Due to the falling value of the Canadian dollar against major currencies, inflation and escalating subscription rates for serials, the Library faced an increase of 16$20 \%$ in the 1992-93 fiscal year and estimates that it might well face an increase of $10 \%$ in its serials acquisitions budget for 1993-94. In addition, the need to keep up with inflation in monographs and to return the serials/monographs ratio from its current level of 69:31 to the 65:35 level, creates an estimated total shortfall of approximately $\$ 500,000$ to be obtained from a combination of the following sources: Acquisitions Stabilization Fund (an internal Library allocation of unspent funds established in 1989/90) increases in the collections budget, internal reallocations and serials cancellations. The Senate Library Committee will review the budgetary situation at the end of the fiscal year.

There are two further considerations to bring to Senate's attention before presenting the Committee's plan. The Library, like other units, faces cuts in staff positions for next year to meet its share of the anticipated shortfall in the University's General Purpose Operating Funds. However, to expect the

Library, which is already short-staffed, to pay for the Collections budget shortfall by staff reductions or by reducing the budget for student assistants, is unreasonable. The Collection, as previously noted by this Committee, has not fared as well over the past five years - a period of general growth in the University - as have other units. There is, therefore, a strong case for treating the Collections budget less harshly in a period of austerity. moreover, the Library does not plan, nor would the Senate Library Committee approve, erosion of the Collections budget to address the current cuts in the University's GPOF.

In order to cover the shortage of Collections budget funds, the Senate Library Committee has not accepted a single method for coping with the short-term problem facing the Library. Instead, the Committee submits the following package of combined measures which were approved unanimously by the Committee on march 9, 1993.

## Short-term Measures:

1. The Library will transfer back to the Collections budget the $\$ 77,000$ which was transferred last year to the binding budget. Binding may be slowed for a year or two, but prospective serial cancellations, by reducing the total number of serials to be bound, should bring the situation to an equilibrium.
2. During the 1993-94 budget planning process, a further amount of approximately $\$ 200,000$ could be found if the University implements the following formula for adjustments to the Library's Collections budget:
(a) An adjustment for currency rate fluctuations on a rolling ten year average,
(b) an inflationary adjustment based on the Consumer Price Index, and
(c) an allowance of approximately $1.5 \%$ for new material.

These adjustments, similar to the formula used in recent years, are needed to protect the Collections budget and to achieve the goal endorsed by Senate in April, 1992, i.e. to increase the fraction of the overall University's budget which is spent on Library Collections.
3. The Library will use the Library Stabilization Fund to address a part of the serial increases due to currency fluctuations and a sharp decline in the value of the Canadian dollar that occurred during the second half of 1992. Up to $\$ 300,000$ of the $\$ 573,000$ currently in the fund will be expended: up to $\$ 150,000$ in the 1993-94 and up to $\$ 150,000$ in 1994-95. This would win a two year reprieve for up to $\$ 150,000$ worth of serials, with the hope that the overall situation of the Collections budget might have improved by 1995. We also ask the President's Office and Board of Governors to replenish the Stabilization Fund to its current level at such time as the financial situation of the University permits.
4. It is likely that measures 1,2 and 3 will not provide sufficient funds, in which case the library may cancel up to $\$ 200,000$ worth of subscriptions in 1993-94. Units such as Science, Math \& Macmillan which saw their share of serial expenditures rise from $20 \%$ of the total in 1981-82 to $30 \%$ in 1991-92 and Law, which saw its share over the same period rise from 7\% to $10 \%$, would be assigned a proportionally higher share of cuts than other units. Units would be asked to use the following guidelines:
(a) Give priority to cancelling titles with excessive price increases.
(b) Retain titles with low cost (under \$100) if librarians/users feel they are being used.
(c) Reduce remaining duplication as much as possible.

Given a likely carry-over in funds from 1992-93 and the possibility of a strengthening Canadian dollar, it may be possible to cut less than this amount from serials and/or to compensate to some extent by ordering some badly needed new journals so that the net loss would be less than $\$ 200,000$.
5. The Library will make contingency plans for an additional cancellation in 1994-95 if necessary.

## Middle-term proposals

1. Fund-raising for the Library Collection should be a central priority over the next few years. This means that a concerted effort should be made to reach alumni of the University and possible contributors in the larger community, by working closely with the Alumni Association, Friends of the Library, and with the Senate Library Committee itself. The Committee is convinced that the Collection must have a higher profile in our collective endeavours, and that the financial security that contributions and endowments provide would help put the Collection on a more stable footing. A substantial endowment has already been funded by Walter Koerner, and this should be capitalized immediately.
2. The Senate library Committee should re-visit the situation of the Library Collection at least once a year and bring its conclusions to the attention of Senate as part of its annual report.

## Long-term proposals

1. The University administration, in conjunction with Faculties, the Senior Appointments Committee, and the Association of Universities and Colleges of Canada should address the question of the quantity, as opposed to quality, of publications required in promotion and tenure decisions. To what degree is the crisis facing our Collection the result of the scholarly communication system and the "publish or perish" philosophy prevalent in North America and abroad. What, if anything,
can be done to modify this, thereby reducing the pressure to publish in academic journals and the spiralling cost and number of these? A start could be made in exploring these issues by establishing a sub-committee of Senate to consider the extent of the problem and to report back to Senate. Some possible changes to be considered are:
(a) Universities and Learned Societies should explore the possibility of taking back the publishing of their journals from commercial publishers, particularly where publication costs are unacceptably high.
(b) University faculty members, as the authors of much of the journal literature, could refuse to sign over to publishers the copyright of their articles.
(c) The use of new technologies such as Uncover, for gaining access to articles should be explored, with careful attention, however, to the danger that flows from user fees. Students, in particular, would have to be sheltered from such costs.
(d) UBC should support the efforts of the Association of American University Research Libraries Project, chaired by Dr. Hannah Gray, to coordinate efforts to achieve long term reductions in the cost of academic publications.
Dr. Grace
Dr. Will
That the report be received.

## Carried.

Senate expressed thanks and appreciation to Dr.Grace and members of the Senate Library Committee for the work done by the Committee during this difficult budgetary period.

## Faculty of Medicine

PROPOSAL TO ESTABLISH THE STEPHEN M. DRANCE CHAIR IN OPHTHALMOLOGY
It was stated in the material circulated that the Chair is named in honour of Stephen M.
Drance who was Head of the Department of Ophthalmology during the time that the
Department made significant progress towards establishing a national and international
reputation for its strong interdisciplinary research program linking the basic and clinical sciences. The Chair is not designated for any specific area of Ophthalmology but appointments will be made in accordance with the priorities of the Department and the quality of the appointee.

## Dr. Slonecker That the proposal of the Faculty of Medicine Dr. Tees <br> That the proposal of the Faculty of Medicine to establish the Stephen M. Drance Chair in Ophtalmology be approved.

Carried.

## School of Physical Education and Recreation

## PROPOSAL TO CHANGE THE NAME OF THE SCHOOL TO THE SCHOOL OF HUMAN KINETICS

Dean Sheehan presented a proposal from the School of Physical Education and Recreation to change the name of the School to the School of Human Kinetics. It was stated in the material circulated that the term Physical Education and Recreation was no longer an adequate descriptor of the faculty, students and activities of the School, one of the reasons being that the program leading to the Bachelor of Recreation degree was discontinued in 1985. Also, the term Physical Education, as commonly interpreted in the 1990s, is no longer inclusive of the School's mission. A university "Physical Education" course of studies now connotes the professional and scholarly components of an academic program leading to the preparation and certification of elementary and secondary school physical education teachers. The teaching, research and professional activities of the faculty, while including traditional physical education, encompass a much broader field of inquiry and of professional practice. The names of the four curricular programs in the recently revised undergraduate program appropriately identify the components of the field of Human Kinetics: Exercise Science, Health and Fitness, Leisure and Sport Management, and Physical Education. Thus Physical Education is just one of the four components of the field of Human Kinetics.

In the rationale given for adopting the name, it was stated that faculty had given serious consideration to many names but decided that most of them failed to reflect the breadth of the School's teaching and research. Terms such as Exercise Science, Sport Studies, Movement Science and Kinesiology were viewed as being too narrow. In the final analysis the term Human Kinetics was chosen.

Human Kinetics is a cross-disciplinary body of knowledge which focuses on the biophysical and psycho-social dimensions of human movement, exercise, sport, and play and the cultural context within which these elements of human behaviour have developed and occur. It is an emerging area of inquiry evolving principally from research-oriented programs in physical education. Problems studied range from cellular analyses of neuromuscular function and psychosocial factors influencing human movement, to analyses of social and cultural transformations in the role and functions of exercise, play and sport. Human Kinetics is the only discipline centrally devoted to a comprehensive and systematic study of movement behaviour.

The term Human Kinetics was accepted with the understanding that it encompassed the study of human movement from a life/physical science, from a social/behavioural science, and from a humanities frame of reference. Thus our undergraduate specializations of Exercise Science, Health and Fitness, Leisure and Sport Management, and Physical Education, as well as our graduate degree areas of Bioenergetics, Socio-cultural and Behavioural research, are all subsumed under the more generic term, Human Kinetics.

It was also noted in the proposal that two initiatives were underway to alleviate any confusion in the minds of the general public. First, a curricular revision resulted in the
seven B.P.E. programs being reduced to four, with one of the named Physical Education. The four program names, given above, clearly identify the different components of Human Kinetics, and by labelling one of them Physical Education the School is able to retain the identity of this traditional and important component. Second, following Senate approval of the new name and revised curriculum, the School will conduct a vigorous marketing campaign to inform the schools, colleges and general public about these changes.
\(\left.\begin{array}{l}Dean Sheehan <br>

Dean Grace\end{array}\right\}\)| That the proposal of the School of Physical |
| :--- |
| Education and Recreation to change the name |
| of the School to the School of Human Kinetics |
| be approved. |

## Carried.

## Faculty of Science

## PROPOSAL TO CHANGE THE NAME OF THE DEPARTMENT OF MICROBIOLOGY TO THE DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY

It was stated in the material circulated that there is a strong traditional relationship between Microbiology and Immunology and the Department has been a centre for the teaching of immunology on the UBC campus for twenty years. The classical interaction between microbiology and immunology came from the study of infectious diseases. This is even more evident these days when one considers the complexity of the cell-to-cell relationship in diseases such as tuberculosis or AIDS, where the interplay between host and pathogen involves many aspects of microbiology, immunology and cell biology. In addition, this relationship encompasses teaching and research; the Department of Microbiology at UBC numbers three immunologists among its faculty (two professors, one assistant professor) with one joint and seven
associate members of the same discipline. Immunology is an integral part of the second year basic microbiology course (MICB 200) and honours and microbiology majors are required to take the third year immunology course (MICB 302). In addition, the immunology group in the Department teaches a highly successful graduate level course (402) and offers an advanced immunogenetics program (MICB 502).

Thus, while immunology has developed into a distinct intellectual discipline, the Department of Microbiology focuses the activities of immunology and microbiology and provides a "core" or "centre" for immunology on campus. The immunology group members in the Department are of international reputation, recognized for their significant contributions to research in the field. They bring distinction and prestige to the Department and UBC and over one million dollars a year in funding. In a recent internal review of the Department there was unanimous approval that the name be changed to the Department of Microbiology and Immunology. The change in name reflects not only historical links but routes to future initiatives in teaching and research.
\(\left.\begin{array}{l}Dean McBride <br>

Dr. Scudder\end{array}\right\}\)| That the proposal of the Faculty of Science to |
| :--- |
| change the name of the Department of |
| Microbiology to the Department of |
| Microbiology and Immunology be approved. |

## Carried

## Letters of Permission

## PROPOSED NEW CALENDAR ENTRY

The following change in the Calendar entry on Letters of Permission had been circulated for information. The Registrar explained that there was no change in policy but that the statement had been re-written for clarity:

After the start of the first session to which he or she has been admitted, any student who is eligible to continue studies and intends to obtain a UBC degree may obtain transfer credit from another institution only if prior permission has been obtained in writing from the Faculty in which the student is enrolled.

## Supplemental and Deferred Examinations

## PROPOSED REVISIONS TO CALENDAR ENTRIES

The following change in the Calendar entry on Supplementals and Deferred Examinations had been circulated for information. This statement has also been re-written for clarity:

Supplemental examinations will be held in late July or early August. Applications must be made to the Office of the Registrar by June 25, and must be accompanied by the required fee.
Supplemental examinations may be written at the University and at standard centres* in Campbell River, Chilliwack, Cranbrook, Dawson Creek, Kamloops, Kelowna, Nanaimo, Nelson, Penticton, Port Alberni, Powell River, Prince George, Prince Rupert, Vernon, Victoria, Whitehorse, Y.T. and Williams Lake. (*list subject to change)

In special cases a student may be permitted to write supplemental examinations at a university outside British Columbia or at a special centre other than a university if satisfactory arrangements can be made. Since permission is contingent on completion of arrangements, only early applications to write in special centres will be considered.

The last sentence in the entry "Deferred Examinations" in the 1992/93 Calendar has been revised to read:

Deferred examinations are written at the same time and at the same centres as supplemental examinations and the deferred examination, in most cases, is the same as the supplemental examination in a particular course.

## Other business

## SENATE BUDGET COMMITTEE

In response to a request by Dr. Resnick, Dr. Wehrung confirmed that the Budget
Committee would comment on Dr. Lusztig's report and the question of administrative costs in this university in its report to Senate at the May meeting.

## MEETING OF THE JOINT FACULTIES

As a representative of the joint Faculties, Dr. Sobrino expressed his regret that the President had not called a meeting of the joint Faculties to explain the current situation at the University and to allow members of faculty to ask questions in a formal manner.

The President responded that he was currently having a series of breakfast meetings with faculty and staff members on a regular basis and although it was not perhaps a substitute for a joint meeting, the President stated that he was finding this a very useful forum for discussion and dialogue.

## FACULTY OF APPLIED SCIENCE - STUDENT WORKLOAD

In response to a query by Mr. Olynyk, Dean Meisen stated that there had not been an overall increase in the First Year workload. For one year there had been a decrease of three credits because the English requirement in first year had been reduced from 6 credits to three when English 100 was discontinued, so in fact the original number of credits was 37 as opposed to 34 . Dean Meisen stated that the Faculty was concerned about the workload not just in the first year but also in the higher years, although contrary to what people thought it was not out of line with other universities. He stated that the Faculty was looking at ways and means of reducing the workload although it was not just a matter of the number of credits since some three credit courses had a heavier workload than others. He stated that he would report to Senate on this matter probably at the May meeting.

## SHAUGHNESSY HOSPITAL CLOSURE

Dr. Dawson made the following statement to Senate:

As a member of Senate elected by the Faculty of Medicine, I wish to express my deep concern over the loss of almost one-third of the classrooms for the Department of Medicine, clinical years, that has occurred
with little or no outcry from the University. This is all the more surprising since the decision is not one taken by our administrators, nor even by this body, the Senate. Rather, it was taken unilaterally by the Government of British Columbia. I refer to the closure of the Shaughnessy Site of University Hospital - the first governmental closure of a teaching hospital in Canada.

This closure, responding I am sure to the base instincts of neighbouring hospital organizations, will in my view critically affect our 3rd and 4th year medical faculty teaching and our resident training program.

Furthermore, the ungracious and precipitous firing of the Board of Governors of the University Hospital makes it unlikely we will succeed in finding people of quality in the future for this role. I should point out that this Board was the only Board that had signed an affiliation agreement with the University.
I will not, in this forum, dwell on the wealth of unique clinical services that will no longer be available, or the major threat this poses to the function of the general hospital on the campus site. But I will express my profound sadness at the way the University has acquiesced to this governmental decision.

President Strangway stated that the University had written to the government expressing profound concern over the issue.

## ASSISTANT SECRETARY OF SENATE

Mr. Orvin Lau paid a special tribute to the Assistant Secretary of Senate, Fran Medley, and on behalf of those student senators attending their last meeting, Mr. Lau stated that it had been a pleasure and a privilege to serve on Senate.

## Adjournment

The meeting adjourned at 10.30 p.m.

## Next Meeting

The next regular meeting of Senate will be held on Wednesday, April 21, 1993.

APPENDIX

## APPENDIX

## NEW AWARDS RECOMMENDED TO SENATE

Lily BENN Memorial Bursary-A $\$ 1,500$ bursary has been endowed in memory of Lily Benn. The award is offered to a third or fourth year student in the accounting option in the Faculty of Commerce and Business Administration. (Available 1993/94 Winter Session.)
W. Gordon BRANDRETH Prize in Physical Education-A $\$ 300$ prize has been endowed by Bertha Brandreth in memory of her husband W. Gordon Brandreth. The award is offered to a student in Health and Fitness within the School of Physical Education, on the recommendation of the School. (Available 1992/93 Winter Session.)
Kyle CARDINAL Memorial Bursary-A $\$ 700$ bursary has been endowed by family and friends in memory of Kyle Cardinal. The award is offered to an undergraduate student from outside of lower mainland region, who is specializing in Finance within the Faculty of Commerce and Business Administration. (Available 1993/94 Winter Session.)
CIM Georgia Strait Branch Bursary-A $\$ 600$ bursary has been endowed by the CIM, Georgia Strait Branch. The award is offered to an undergraduate student in Mining and Mineral Process Engineering. Preference is given to a student from Vancouver Island, then to a student from British Columbia. (Available 1993/94 Winter Session.)

Michael J. CROOKS Memorial Scholarship-A $\$ 600$ scholarship has been endowed by family, friends and colleagues in memory of Michael J. Crooks, a member of the U.B.C. Department of Physics and co-founder of the B.C. Physics Olympiad. The award is offered to a student entering the Secondary Teaching Program in the Faculty of Education who is preparing to teach physics. The award is made on the recommendation of the Faculty of Education. (Available 1993/94 Winter Session.)

Balbinder Singh DODD Bursary-A $\$ 1,000$ bursary has been endowed in memory of Balbinder Singh Dodd by Dr. Jon Johnson and Ms. Susan Brousseau. The award is offered to a student in the Department of Political Science. (Available 1993/94 Winter Session.)
J. Stuart HANNA Prize in Forest Resource Management-A $\$ 500$ prize in honour of J. Stuart Hanna has been established by his family. The award is offered to a fourth year undergraduate student majoring in Forest Resource Management or Forest Sciences. The prize is made on recommendation of the Faculty. (Available 1992/93 Winter Session.)
John E. INGOT Bursary in Education-A $\$ 300$ bursary has been endowed by John E. Ingot. The award is offered to students entering the post baccalaureate initial Teacher Education Program leading to a Bachelor of Education. Recipients admitted to the two year program who qualify for bursary support may receive this award in their second year. (Available 1993/94 Winter Session.)
INSOLVENCY Institute of Canada Scholarship-A \$2,500 scholarship, gift of the Insolvency Institute of Canada, is awarded to a graduate student in the Faculty of Law undertaking research in the field of insolvency and related areas. The award is made on the recommendation of the Faculty in consultation with the Faculty of Graduate Studies. (Available 1993/94 Winter Session.)
M.M.Z. KHARADLY Student Project Prize in Electrical Engineering-A $\$ 150$ prize has been endowed by the students, research colleagues and friends of Professor M.M.Z. Kharadly to honour his retirement in 1992. The award is offered on the recommendation of the Department of Electrical Engineering to an undergraduate student whose experimental project demonstrates excellence and creativity. (Available 1993/94 Winter Session.)

LANDO \& Company Bursary-A $\$ 300$ bursary has been endowed by Lando \& Company for a student enrolled in Law 313-Real Estate Transaction, in the Faculty of Law. (Available 1993/94 Winter Session.)
M. Gail MACDONALD Memorial Bursary-A $\$ 1,000$ bursary is offered in memory of M. Gail MacDonald who was a lawyer with Canadian Pacific Legal Services. The bursary is offered to undergraduate students in the Faculty of Law. (Available 1992 /93 Winter Session.)

Ed PECK Industrial Relations Prize in Law-A $\$ 300$ prize has been endowed by friends and colleagues in honour of Ed Peck, former chairman of the Industrial Relations Council of British Columbia. The award is offered to a student who achieves excellence in the field of industrial relations, with preference being given to a student whose focus is the use of alternative forms of dispute resolution. The prize is made on the recommendation of the Faculty of Law. (Available 1992/93 Winter Session.)
REID-WYNESS Graduate Scholarship in Nursing-A $\$ 900$ scholarship has been endowed by Alison Wyness in honour of her husband Gordon Young Wyness and her father James Inglis Reid. The award is offered to a graduate student in the School of Nursing on the recommendation of the School, in consultation with the Faculty of Graduate Studies. (Available 1993/94 Winter Session.)

SONY of Canada Ltd Applied Science Scholarship-A $\$ 1,500$ scholarship is offered by Sony of Canada Ltd. The award is offered to engineering students within the Faculty of Applied Science on the recommendation of the Faculty. (Available 1992/93 Winter Session.)

SONY of Canada Ltd Science Scholarship-A $\$ 1,500$ scholarship is offered by Sony of Canada Ltd. The award is offered to students in the Faculty of Science on the recommendation of the Faculty. (Available 1992/93 Winter Session.)

STIKEMAN, Elliott Prize in Real Estate Transactions-A $\$ 500$ prize has been established by the law firm Stikeman, Elliott. The award is offered to a student who achieves high academic standing in Law 313- Real Estate Transaction and is made on the recommendation of the Faculty. (Available 1992/93 Winter Session.)

TRIDENT Enrichment Society Bursary-A $\$ 300$ bursary is offered by the Trident Enrichment Society and is available to a student at the University of British Columbia. (Available 1993/94 Winter Session.)
J.K. ZEE Memorial Scholarship-A \$3,000 scholarship has been endowed by family and friends in memory of J.K. Zee. The award is offered to an undergraduate or a graduate student in the Faculty of Applied Science, on the recommendation of the Faculty, and in the case of a graduate student, in consultation with the Faculty of Graduate Studies. (Available 1992/93 Winter Session.)
WESTCOAST Energy Inc. Jack Davis Scholarship in Energy Studies-A \$2,400 scholarship has been endowed by Westcoast Energy Inc. in memory of the Honourable Jack Davis. The award is made to a graduate student in Commerce and Business Administration, Science, Applied Science, Political Science or Economics whose program focuses on energy studies. The award is made on the recommendation of the Faculty of Graduate Studies in coordination with the respective Faculties. (Available 1992/93 Winter Session.)

EMERGENCY Preparedness Conference Scholarship-A \$1,200 award endowed by the Emergency Preparedness Conference is offered to graduate students concentrating in Emergency Planning. Recipients will be invited to the annual Emergency Preparedness Conference and may be encouraged to present their work at a subsequent meeting. The award is made on the recommendation of a Selection Committee, in consultation with the Faculty of Graduate Studies. (Available 1992/93 Winter Session.)

Bob HINDMARCH Scholarship - Two $\$ 1,500$ scholarships have been endowed by Brenda and David McLean and the Province of British Columbia in honour of Bob Hindmarch for his service to UBC as Director of Athletics and Sport Services. The scholarships are offered to undergraduate students having outstanding academic and athletic abilities and are made on the recommendation of the President's Athletic Awards Committee. (Available 1992/93 Winter Session.)
NOVOPHARM Ltd Prize in Pharmacy - A $\$ 300$ prize and a trophy are provided annually by Novopharm Ltd. to a student in the graduating class to recognize scholastic achievement and participation in undergraduate activities within Pharmaceutical Sciences. The award is made on the recommendation of the Faculty. (Available 1993/94 Winter Session).


[^0]:    Denotes changes
    ** Denotes total 2nd year enrolment including new admissions
    *** Final numbers dependent on Teacher Expansion Funding

