RYERSON POLYTECHNIC UNIVERSITY

AGENDA

ACADEMIC COUNCIL MEETING

Tuesday, November 2, 1999

5.30 pm A light dinner will be served in the Commons. Jorgenson Hall
6.00 pm Meeting in The Commons, A-250, Second Floor

Page 1	1.	**President's Report** Ryerson Achievement Report
	2.	**The Good of the University**
Page 2-10	3.	**Minutes of the October 4, 1999 Meeting**
Pages 11-21	4.	**Business arising out of the Minutes** Library - E. Friesen Progress Indicators - D. Mock
Pages 22-25	5.	**Correspondence** Letter to Hon. Diane Cunningham from C.O.U.
	6.	**Reports of Actions and Recommendations of Departmental and Divisional Councils**
Pages 26-31		From Arts : Course changes in Appplied Geography and Sociology;
Pages 32-37		From Business : Merger of professionally related electives in Business Management; Course changes in Business Management
Pages 38-39		From Community Services : Course changes in Food and Nutrition
Pages 40-45		From Engineering : Course changes in Civil Engineering, Applied Chemistry, Biology and Applied Computer Science.

7. Reports of Committees

Page 46 — Report #99-2 : Nominating Committee

Pages 47-73 — Report #99-2 : Academic Standards Committee

Pages 74-77 — Report #99-1 : Information Technology Committee
Motion : "Be it resolved that AcademicCouncil approve the Policy on Information Technology and Acceptable Use"

Pages 78-114 — Report #99-1 : of the Graduate Council
Motion " Be it resolved that Academic Council approve for the M.A. Sc. / M. Eng. Program in Electrical and Computer Engineering in the Faculty of Engineering and Applied Science and the Joint Ph. D. Program in Electrical and Computer Engineeing (with DalTech Dalhousie University) for submission to the Ontario Council for Graduate Studies for Standard Appraisal."

8. New Business

Pages 115-136 — University's response to the Ombudsperson's Annual Report, June 30, 1998 - June 30, 1999 (both the Report and Response are included).

9. Adjournment

RYERSON ACHIEVEMENT REPORT

For the November, 1999 agenda of Academic Council

John Hicks of Continuing Education chaired a study investigating the Ontario Smog Plan. The study concluded that faster action is essential to prevent more deaths resulting from air pollution.

Christina Arandjelovic of Journalism won the 1999 Nike Bursary for sports journalism, presented by the International Sports Press Association.

Events

Alumni returned to campus Oct. 16 to take part in milestone year receptions, campus tours, and displays at Homecoming 1999.

On Oct. 2, Ryerson hosted its second annual Pow Wow in the quadrangle, organized by Aboriginal Student Services. The event received coverage on CFTO-TV.

Musician Bryan Adams launched his book, *Made in Canada*, at the School of Image Arts Sept. 28. The book is in aid of breast cancer research and Mr. Adams held a question-and-answer session with Image Arts and Fashion students as part of the launch.

The Ryerson Pancake Breakfast Oct. 7 raised $1,613 for the United Way.

Media Coverage

Rye Goodyear of Graphic Communications Management was quoted in the August edition of *Graphic Monthly.* He was one of six experts to discuss "Is Print Dead? The Internet and the future of printers."

Suanne Kelman of Journalism was part of a media panel Sept. 30 on *This Morning*, which airs nationally on CBC Radio, discussing media events of the previous month.

Director of Information Technology Management **Ken Grant** was quoted in *Technology in Government* magazine saying band-aid solutions won't solve the IT skills crisis; and in *Canadian Computer Reseller* in a story on the skills crisis.

The *Medical Post* quoted Associate Vice President Academic **Rena Mendelson**, commenting on fasting.

Cablecaster magazine ran a full-length feature in its August edition on children's programming, with mentions of the joint survey of children's viewing habits conducted by RTA and ECE.

Fashion's **Alice Chu**, who visited Vietnam recently in search of colour trends, was featured in a *National Post* story Sep 27.

Director of Nutrition **Jennifer Welsh** commented in an Oct. 1 story in the *Toronto Star* on eating in moderation.

Minutes of Academic Council

October 4, 1999

Members Present
C. Lajeunesse
Gordon Cressy
Lynn Harrison
Dennis Mock
Keith Alnwick
Katherine Penny
Kamran Behdinan
Erin George
Charles Zamaria
Donald Elder
Robert Haines
Mary Jane Gomes
Sandra Tullio-Pow
Mike Bardecki
Michael Finn
M. Juliana Carvalho
Beth Moore Milroy
Marilyn Booth
Judith Pearce
Juri Silmberg
Judith Sandys
Nazmin Zaver
Eva Friesen
Linda Grayson
Michael Dewson
Rene Mendelson
Errol Aspevig
Peter Tretter
Naushad Jamani
Rahim Virji
Derek Northwood
Ira Levine
Peter Pille
Michael Miller
David Day
Desmond Glynn
Leo Michelis
Alan Kaplan
Jack Radford
Karen Duplisea
Leonard Molczadski
Perry Chen See
Timothy Sly
John Craig Eaton
John Hicks

Regrets
Kishor Pillai
Monique Richard
Sharon Frenkel
Ethan Zon
Diane Granfield
Rose Amato

Absent
Marion Creery
Edward Slopek
Mary McCrae
Jean Paul Chavy
Pat Morrison
Susan Silver
David Mason
Linda Sculac
Amirmakin Aziz
Mark Gunaratnam

1. President's Report

President Lajeunesse began his comments by noting the recent passing of Stan Heath on September 7, 1999. The President referred to the Dean's many contributions to Ryerson and UNICEF among others in the community.

C. Lajeunesse welcomed Chancellor John Craig Eaton, who became Chancellor on July 1, 1999. On October 29, 1999, at the Fall Convocation, there will be a public ceremony installing the Chancellor. He noted that the Chancellor is an ex-officio member of Academic Council.

In addition, C. Lajeunesse noted, that among other duties of Academic Council's Awards Committee, is the approval of the Honarary Doctorates. The deadline for submitting names for the Spring Convocation is October 15. There will be eight spring convocations with at least one Honarary Doctorate per ceremony.

C. Lajeunesse asked the Secretary of Academic Council for an update of activities from the office. The Secretary indicated that there were two documents that the members of the Academic Council should pick up. The first was page two of the "Ethical Conduct in Research Involving Human Subjects" policy which was to be considered by Academic Council that night. In addition, there was a new listing of ex-officio members, with the addition of Gordon Cressy, Vice President, University Advancement. The Secretary informed Council that the draft Student Academic Appeals Policy will likely be brought to Council for approval in December.

C. Lajeunesse welcomed Paul Stenton, Director of University Planning. He indicated Mr. Stenton's background was from both a government and policy perspective. In addition, the President noted the attendance of a new board member, an alumnus representative, Oliver Carroll.

The President invited everyone to participate in the United Way Pancake Breakfast which was being held on Thursday, October 7, 1999 at two locations, Jorgenson Hall and the Learning Resource Centre. The Breakfast once again involves a challenge from York University.

2. The Good of the University

Following a nomination by P. Tretter, seconded by R. Mendelson, R. Haines was elected Vice Chair of Academic Council. As Vice Chair, R. Haines assumed the Chair for this portion of the agenda.

E. George wished to inform the student members of Academic Council that they had mail boxes in Room A62. Their Academic Council package, as well as other communications, could be found in those mail boxes. She indicated there were four positions on the RyeSAC Board and there would be a letter of introduction to RyeSAC. There would be a meeting for Academic Council student members prior to the next Academic Council at 4:30 p.m.

M. Doucet, speaking from the audience, asked the Registrar about a newspaper article from the Toronto Star dated September 7, 1999. This was an article on the front page of the Business Section which claimed it had information from the Registrar's Office. The article listed University education costs and indicated Ryerson's costs were higher than average. The Reigstrar responded that he had not seen the article but that he would look into the matter. There had been no information provided to the newspaper from the Registrar's Office.

P. Tretter enquired about the potential hazard of large numbers of students gathering outside L72 prior to classes. L. Grayson responded the situation would be monitored, and approriate action would be taken. She will report back to Council in November.

3. Minutes of the May 4, 1999 Meeting

Approval of the minutes was moved by K. Alnwick, seconded by J. Sandys. The motion was passed.

4. Business Arising Out of the Minutes

There was no business arising from the minutes that would not be dealt with elsewhere on the agenda.

5. Correspondence

There was no correspondence for the Office of Academic Council.

6. Reports of Actions and Recommendations of Departmental and Divisional Councils

D. Mock reviewed the name change for the option "Business, Economic and Decision Support Systems" which was to be changed to " Economics and Management Science". Documentation for the basis of the name change was attached. Motion moved by D. Mock, seconded by J. Radford for Academic Council to approve the option name change.

P. Tretter enquired why it had taken so long for this item to come to Council. L. McGuire, from the audience, indicated that this was an option shared by the Economics and Business Schools and, as a result, had needed time to wind its way through the various committees for approvals. A thorough study had been done on the appropriate name as

well. The motion was passed.

D. Mock introduced the second item, which was a departmental name change. Motion moved by D. Mock, seconded by D. Northwood that Academic Council approve the departmental name change from "Department of Applied Chemical and Biological Science" to "Department of Chemistry, Biology and Chemical Engineering". The motion was passed.

7. Reports of Committees

i. Report #F99/1 of the Nominating Committee

E. Aspevig presented the report on behalf of the Nominating Committee. He expressed the Committee's thanks to the Secretary of Academic Council for her efforts in extensive consultations to recruit new members to Academic Council Committees.

E. Aspevig reviewed the motion included in the materials regarding amending the composition for the Awards Committee. Motion was moved by E. Aspevig, seconded by M. Dewson that Academic Council amend the composition of the Academic Awards and Ceremonials Committee, to add the Registrar as an ex-officio member. Motion was passed.

In regard to vacancies on Academic Council, E. Aspevig brought forward the motion that Academic Council approve the names put forward by the Nominating Committee for membership of Academic Council. Motion was seconded by J. Radford. Motion was passed.

For the memberships on the various committees, E Aspevig reviewed the nominees as presented in the report noting :-

- For the I.T. Committee, "N. Zaver" should be added to the list as a continuing member;
- For the I.P. Committee, "Sue" Wilson should be changed to "Susannah" Wilson;
- For the S.R.C. Committee, there was a name correction from "Sue" Wilson to "Susannah" Wilson;
- For the Discipline Committee, "Vivian" Woodworth should be listed as "Victoria" Woodworth.

Motion was moved by E. Aspevig, and seconded by R. Haines to accept the nominations for all the standing committees of Academic Council, as well as the Ad Hoc Course Management Review Committee.

D. Elder enquired what would take place regarding the Open College Committee which had not been struck. D. Mock responded that, given the operational part of Open College was now transferred to Continuing Education, there will be a review undertaken to determine whether there is a need for such a committee to continue to exist.

J. Pearce requested there be consistency for her name listed on the various Academic Council Committees. Her name should be listed as Judy, not Judith. Motion was approved.

E. Aspevig moved a motion regarding the Appeals Committee which would amend the composition. The motion moved by E. Aspevig, seconded by R. Mendelson was to amend the composition of the Appeals Committee from "one administrator from each Faculty/Division" to "two faculty from each Faculty/Division". R. Haines enquired whether this changed the composition of the committee in terms of the balance between faculty and students. The Secretary of Academic Council responded that the balance between faculty and students remained the same; however, administrators were removed from the members of this committee due to the conflict of interest as identified by both the Secretary and the Appeals Review Commitee report. The motion was passed.

E. Aspevig moved the nominees of the Appeals Committee be accepted. J. Sandys seconded the motion. The motion was passed.

ii. **Report #F99/1 of the Ethics Review Board**

C. Lajeunesse indicated that prior to moving to the report, he wished to congratulate all of those involved in graduate studies initiatives for their efforts in launching the graduate school.

R. Mendelson introduced D. Checkland, who had been Chair of the Ethics Review Board, for many years. The new chair for 1999-2000 would be R. Rinkoff.

D. Checkland indicated that the draft policy presently before Academic Council would replace an existing policy from 1987. This policy change has been brought about as a result of the Tri-Council introducing a document calling for all university policies to be in line with the Tri-Council policy. While the original Tri-Council policy document was flawed, it had now been improved. The present draft of the "Ethical Conduct in Research Involving Human Subjects" policy reflects the Tri-Council's policy and does not differ radically from present University policy.

D Checkland did note that the proposed new committee would be making some precedent-setting decisions early on in the review process. He noted that more items would need to go through the Ethics Board than in the past; however, he felt that the gains in protection made this effort worthwhile.

He also noted that an appeal process was referred to within the policy. As well, D. Checkland highlighted various other aspects of the draft policy.

A motion was put forward by R. Mendelson and seconded by L. Grayson that Academic Council approve the policy on "The Ethical Conduct in Research Involving Human Subjects".

P. Tretter enquired regarding the consent provision found on page 9 of the policy. D. Checkland indicated that normally consent was determined by whether a written consent form was completed. He noted that legally one could get consent verbally. The burden was placed on the researcher to ensure that the party was both informed and had consented.

P. Tretter enquired how this policy would affect students in classes and would students fail if they did not participate in class research. D. Checkland responded that anything that had a clear research component would need a consent provision and this would be seen as separate from participation in the course. He noted that there could be some overlapping in some circumstances but that those areas should go through the new Research Ethics Board.

E. George noted that she had a number of concerns regarding page 18 of the policy and the involvement of students in research. She would like to see an amendment where students would not be allowed to be used as subjects in classes. D. Checkland indicated that to forbid the use of students would not give control of the situation to the students but only rule them out as potential subjects. He indicated he did recognize the need to protect students which is why the draft had been created as it had. E. George responded that from her own experience she felt she had been used inappropriately in an instructor's class for research purposes. In particular, the reaction of the students in the class to a new course and new course material was the subject of the research. In addition, E. George indicated she did not feel comfortable discussing the draft policy without page 2 of the policy having been made available previously. In response to her request for clarification from the Chair, E. George stated she was asking to have the document tabled until the next meeting.

J. Pearce noted that student research projects would be treated differently than before. D. Checkland indicated that the draft proposed that each Faculty set up a committee to review student research to see if it was in accord with the policy. The Research Ethics Board would act as consultants to faculty committees and students, seeking to protect both students and their subjects. It would not mean

that each student's project would necessarily be reviewed if a number of students were doing the same project in the class.

D. Day requested an explanation of page 19 of the policy. D. Checkland responded that no one part of the popoulation should be overused for research purposes and that the burden should be spread as best as possible throughout the community. D. Day enquired how researchers would be aware of this. D. Checkland responded that while the researcher may not be aware of the various studies on the population, that the Research Ethics Board would have access to such information.

D. Glynn enquired whether a longitudinal study would be precluded by such a rule. D. Checkland indicated that it would depend on the circumstances.

R. Rinkoff indicated that in regards to student research projects, he recognized the need to have guidelines. He indicated that there have been submissions recently where students were asked to participate. He indicated that the committee had insisted that students be told on the form that participation was voluntary, that they could withdraw at any time, and that such a withdrawal would have no impact on their academic standing. D. Checkland also indicated that once the policy was approved by Academic Council, any violations would be dealt with.

L. Harrison enquired what the basis was for deciding whether the student project would be reviewed by faculty. D. Checkland indicated that a review by faculty would ensure greater awareness and understanding of the policy, while not placing a further burden on the work of the Research Ethics Board. In addition what was most appropriate in terms of research could be dealt with by the School. L. Harris enquired whether there could be an amendment to the policy which would read "by each Faculty" as opposed to "by each School". D. Checkland indicated that he had left the area generic for now and that it would be at the discretion of the faculty to decide how best to select review committees in each faculty.

A motion was put forwared by P. Tretter and seconded by E. George to table the report. The motion was defeated on a vote of 9 to 28. The Chair then requested a vote on the original motion. P. Tretter requested a roll call vote for the motion. The following are the results of the roll call vote, (where the recording of a "Yes" would be to approve the motion to approve the policy).

Dennis Mock	Yes
Keith Alnwick	Yes
Lynn Harrison	Yes
Katherine Penny	Yes
Kamran Behdinan	Yes
Erin George	No
Charles Zamaria	Abstain

Donald Elder	No
Robert Haines	No
Mary Jane Gomes	Yes
Sandra Tullio-Pow	Yes
Mike Bardecki	Yes
Michael Finn	No
Juliana Carvalho	Abstain
Beth Moore Milroy	Abstain
Marilyn Booth	Yes
Judith Pearce	Yes
Juri Silmberg	Yes
Judith Sandys	Yes
Nazmin Zaver	No
Eva Friesen	Yes
Linda Grayson	Yes
Michael Dewson	Yes
Rena Mendelson	Yes
Errol Aspevig	Yes
Peter Tretter	No
Naushad Jamani	No
Rahim Virji	Yes
Derek Northwood	Yes
Ira Levine	Yes
Peter Pille	Yes
Michael Miller	Yes
David Day	Abstain
Desmond Glynn	Yes
Leo Michelis	Yes
Alan Kaplan	Abstain
Jack Radford	Yes
Karen Duplisea	Yes
Leonard Molczadski	No
Perry Chen See	Yes
Timothy Sly	Yes
John Craig Eaton	Yes

R. Mendelson moved the motion to amend the Academic Council's Composition and Terms of Reference for the Ethics Review Board; (particulars of which are listed on the agenda of Academic Council). Motion was seconded by J. Sandys. The motion was passed.

E. George enquired what was meant by "community member". R. Mendelson responded that this would be an external community member who would be invited to participate on the basis of their involvement in research. The Secretary will amend the Ethics Review Board Composition to indicate that it will be an

external community member. In addition, the Chair will be listed as Robert Rinkoff.

8. New Business

C. Lajeunesse noted that the schedule of meeting dates, as well as the members of Academic Council, and the Statutes and Procedures of Academic Council were in the October material.
E. George introduced a motion regarding recent changes in the Office of Discrimination and Harrassment Prevention Services. She had previously requested that Council entertain a motion and there had been no objections raised. The motion was distributed to the members of Academic Council. C. Lajeunesse, as Chair of Academic Council stated that the motion was not within the jurisdiction of Academic Council and he therefore ruled the motion out of order. D. Elder questioned the ruling suggesting that the Harassment Office should be considered a department. A motion to appeal the Chair's ruling was brought forward by P. Tretter, seconded by E. George. A vote to overrule the Chair in the matter was defeated on a vote of 8 in favour of overriding the Chair and 27 in favor of supporting the Chair.

9. ADJOURNMENT

Seeing there was no other business, the meeting was adjourned at 7.20 pm.

October 22, 1999

To: Members of Academic Council

I am pleased to provide you with the attached report on ***Progress Indicators and Related Statistics*** for your consideration and advice.

This report follows at some distance an earlier document, the *Revised Working Paper on Performance Indicators*, that was discussed by Council in March, 1999. In response to suggestions put forward at that meeting, additional opportunities for community input have been provided and the framework and content of the proposed indicators has been altered significantly.

What is presented in this report can be viewed as the implementation phase of an initiative that will no doubt evolve. It identifies only indicators that are to be applied across the University, leaving the development of more specifically directed instruments to be carried out by individual academic units over a period of several months.

Your comments on the current document are most welcome, and your advice will be incorporated into the proposed framework to the greatest extent possible. The intention is to begin collecting and organizing the relevant information almost immediately thereafter, and to begin publishing it within a year.

Many thanks to members of Council for your thoughtful attention to this report.

Dennis R. Mock

/lm
Encl.

Progress Indicators and Related Statistics

Office of the
Vice President, Academic

October, 1999

Progress Indicators and Related Statistics

This report is intended to establish an operational framework for progress indicators. The implementation phase of this initiative comes after more than a year of developmental work that included the publication of a series of working papers[1] and several rounds of community input. The outcome of this process is a set of indicators designed to inform our academic planning processes at the University, Faculty, and Departmental levels and also serve a number of other purposes related to public accountability and the formal reporting requirements of the Ministry.

Readers of earlier working papers will notice that the framework presented below has been changed in several respects from earlier incarnations. In particular, the indicators are now somewhat fewer in number and organized quite differently. Some have been reconstructed, some deleted, and some new ones added. The revisions are partly a response to community input and partly a result of gap analysis and an ongoing review of indicators used elsewhere.

Background

The adoption of progress indicators is a response to a series of identified needs. Ryerson's Vision statements, *Providing Knowledge for Life* and *Shaping our Future*; a series of *Academic Priorities and Issues* reports; our periodic program review procedures, and a number of schools and departments carrying out the reviews; each has articulated the need to create a data base tailored to inform our academic planning and review processes and to help us track our progress in respect to key activities.

The indicators set out below will serve four purposes. First, they provide a focussed information base to support planning processes. Second, they will improve our ability to both follow and project trends related to several of critical goals and objectives, thereby enabling us to see a little more clearly where we are - and are not - making headway. Third, they enable us to re-focus some of the information-gathering efforts currently required of us by the Ministry and other external sources in such a way as to better satisfy internal information needs. Finally, they provide the basis for a statistical profile of Ryerson that will tell a broader audience something of who and where we are at this stage in our academic evolution - a step that is being taken by a growing number of universities through the publication of annual reports, "facts and figures", and other such instruments[2].

Academic Goals and Objectives

"Progress", by definition, means movement towards a desired objective or circumstance. Progress indicators, then, are statistics or other types of information that shed light on how effectively the University or an individual academic unit is responding to its academic objectives.

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[1] *Performance Indicators: A Background Paper* ; University Planning Office, February, 1998; *Working Paper on Performance Indicators*; Office of the Vice President, Academic and University Planning Office, May, 1998; *Revised Working Paper on Performance Indicators*; Office of the Vice President, Academic, March 1999

[2] A very partial list of Canadian examples includes Alberta, British Columbia, Brock, Lethbridge, Nipissing, Ottawa, Queen's, and Toronto. Most provide access to summary data both through their home pages and in paper form.

Indicators can be used to provide a moment-in-time statistical profile based on a defined set of activities. Their greater value, however, lies in the charting of trend lines. Statistical indicators are particularly well suited to the creation of information time series that reveal progression - or lack thereof - along a developmental path.

The principal reference point for progress indicators, then, is the situation of a university or a single academic unit at a given point in time. A statistical comparison with other universities, or with other academic units within the same University, can sometimes provide useful information and can certainly add important breadth of perspective. In terms of academic planning and quality improvement, though, what is paramount is the degree of demonstrated progress over time towards identified objectives.

Ryerson's academic goals and objectives are grounded in our legislated mandate and have been defined more precisely in our Vision statements and *Academic Priorities and Issues*. Three of our goals lend themselves particularly well to the application of indicators: a high quality student experience; program quality and success; and high quality SRC that supports Ryerson's mission. An "Indicators Workshop" held in February 1998 and involving some seventy members of the Ryerson community led to the identification of additional objectives related to these three major goals. The goals and their associated objectives are presented in the following table.

Goals	***Associated Objectives***
Goal 1: High quality student experience	a. to reduce financial barriers and maintain accessibility for qualified students b. to provide high quality support systems and services c. to promote high quality student-faculty interaction d. to provide a high quality physical environment
Goal 2: Successful, high quality programs	a. to attract academically well-qualified students b. to achieve a high level of student academic success c. to attract and retain highly qualified faculty d. to satisfy societal need e. to provide current and relevant curriculum with a high quality of teaching and appropriate methods of course delivery f. to provide high quality laboratories, studios, and learning support facilities g. to provide high quality opportunities for part-time and continuous learning (University level)

Goal 3:	High quality SRC that supports Ryerson's mission	a. to achieve a high level of SRC capacity and productivity b. to achieve a high level of societal impact through SRC c. to conduct SRC in a way that benefits students

These goals and objectives provide working context for the indicators suggested below. However, the indicators are not organized precisely according to this matrix, since many relate to more than one goal or objective. Conversely, ways of assessing progress towards certain objectives have yet to be developed.

Progress Indicators and Related Statistics: Implementation Phase

Many of the following indicators involve information that is already being gathered and organized in one way or another. In these cases, the value added by our adoption of indicators lies in making the information base consistent, systematic, and accessible. Some of the indicators will require new information gathering techniques, and it may take us a little extra time to begin reporting on these. An additional category, "related statistics", provides contextual information that is essential to any worthwhile application of indicators. Several of the indicators are of value primarily when built into time series. The reference year for such series is provisionally set as the 1998/99 academic year, though this has yet to be finally determined.

The information extracted through indicators will be published within Ryerson in two modes: University-wide summaries, and, where appropriate, a breakdown by academic unit. The University-wide summaries, which provide a useful statistical profile of Ryerson, will also be released to the broader community. The first information is to be published after the 1999/2000 academic year.

The framework presented in this report is not finished business. Some of the indicators will require further clarification in respect to precise measurement parameters and data gathering methods. (A separate "operations manual" will follow.) As well, not all areas of activity are currently included, with graduate programming conspicuously absent. We will probably want to develop additional indicators and statistics over time, and we should also be prepared to delete or amend indicators that fail to provide useful information.

Indicators and Related Statistics

Indicator 1

a. *Total number of qualified first-time applicants for admission to Ryerson.*
b. *Mean secondary school average of all incoming first year students from secondary school.*
c. *% of incoming first year students from secondary schools with averages of 80% or higher.*

Direct Indicator of:	***Related to:***
- academically well-qualified student body - societal need (student demand component)	- student academic success - program quality and success - quality of student experience

Comment: These indicators reflect Ryerson's image and profile, and that of its programs, among prospective students.

Related statistics:

- 101:105 applicants
- percentage of 105 applicants who are university transfers; college transfers; mature students
- gender balance of student body
- percentage of students from outside the GTA; from other provinces; international.

Indicator 2

a. *Number of FFTE in part-time programs*
b. *Total CE registrations in credit courses.*

Direct Indicator of:	***Related to:***
- accessibility - provision of continuous learning - role of part-time programs in providing continuous learning opportunities	- student learning experience

Comments: Trend lines for these variables must be interpreted carefully in light of external circumstances, particularly prevailing economic conditions, that influence CE and part-time program enrolments.

Indicator 3

Graduate employment placement rates in the chosen field or a related field.

Direct Indicator of:	***Related to:***
- societal need (employer component)	- currency and relevance of curriculum

Comments: One of several indirect measures of program success, and one which we are currently required to report to the Ministry. Because of our applied mandate, to measure placement rates without reference to the student's chosen career field is inadequate. This variable must also be interpreted in light of economic trends.

Indicator 4 a. *Percentage of programs with formal experiential component, including co-op, internship, work/field/clinical placement* b. *Percentage of students participating in such activities in a given year*	
Direct Indicator of:	***Related to*:**
- currency and relevance of curriculum	- quality of student experience - societal need (industry/professional component)
Comments: This indicator bears upon Ryerson's commitment to provide a high level of applied, experiential learning.	
***Related Statistic*:** Percentage of programs that provide opportunity for international experience, and number of students participating in international activities in a given year.	

Indicator 5 a. *Percentage of students admitted into first year who complete first year with a CLEAR academic standing.* b. *Percentage of students of full-time programs who graduate within two years of the "normal" time for graduation.* c. *Percentage of students of part-time programs who graduate within the specified time limits.*	
Direct Indicator of:	***Related to*:**
- student academic success	- student support systems and services - curriculum, teaching, and course delivery - academically well-qualified students
Comments: These help to gauge the level of student academic success and rates of progression through the program. We are already required to track this variable.	

Indicator 6 *Distribution of class sizes*	
Direct Indicator of:	***Related to*:**
- student-faculty interaction - course delivery	- high quality student experience
Comments: While the relationship between class size and academic success is an item of some controversy, the percentage of classes and sections in different size ranges provides useful information about the nature of student-faculty interaction at Ryerson. The specific break-points and ranges have yet to be determined.	

Indicator 7 a. *Scholarships and bursaries: total awards* b. *Scholarships and bursaries: percentage of total operating expenditures*	
Direct Indicator of:	***Related to:***
- objective of reducing financial barriers and maintaining accessibility - academically well-qualified students	- student support systems and services

Indicator 8 a. *Library budget as % of total operating expenditures, and library acquisitions as % of library expenditures.* b. *Investment in student services, in dollars per FFTE.*	
Direct Indicator of:	***Related to:***
- student support systems and services - learning support facilities	- program quality and success - student academic success
Comments: Two ways of assessing aspects of our learning supports and resources.	

Indicator 9 a. *Percentage of total faculty and percentage of new hires with Ph.D or other terminal degree* b. *Percentage of new hires with directly related experience in the professional field*	
Direct Indicator of:	***Related to:***
- objective to attract and retain highly qualified faculty	- SRC capacity and productivity - program quality and success - quality of the student experience
Comments: Indicates our level of progress in hiring faculty both with typical university-level academic qualifications and with the professionally-related experience so important to Ryerson's mission.	

Indicator 10 a. *Total number and value of externally funded SRC projects* b. *% of faculty with funded SRC activity.*	
Direct Indicator of:	***Related to:***
- SRC capacity and productivity	- objective to attract and retain qualified faculty
Comments: Provide an indication of both competitiveness in SRC grant competitions and the breadth of SRC activity within Ryerson.	

Indicator 11
Ratio of total students (FFTE. to total teaching faculty (FTE. to. (CE excluded from both parts of the calculation)

Direct Indicator of:	***Related to*:**
- quality of student experience	- high quality student-faculty interaction - appropriate course delivery and high quality teaching - SRC capacity and productivity
Comments: A general quantitative indicator of faculty resources	
Related statistics: • Gender balance of total tenured and tenure-track teaching faculty and gender balance of new tenure-track hires • New tenure-track hires and total faculty by designated equity hiring groups • Total number of tenured or tenure-track faculty • Total FTE	

Indicator 12
a. *Number of faculty with peer-reviewed publications (papers, monographs, chapters), and total number of peer reviewed publications*
b. *Number of juried exhibits/installations, or performed/produced creative works, per faculty member in relevant schools/departments*
c. *Number of faculty with non peer-reviewed, academically related publications, and total number of such publications*

Direct Indicator of:	***Related to*:**
- SRC capacity and productivity	- objective of attracting highly qualified faculty
Comments: These indicators augment conventional university research measures in order to reflect Ryerson's SRC philosophy. These require new means of assembling information and will not become effective until 2000/2001.	

Indicator 13
Number of faculty who have published teaching-related research or presented teaching-related conference papers in the past three years.

Direct Indicator of:	***Related to*:**
- commitment to quality teaching - SRC productivity - conduct SRC to the benefit of students	- curriculum and course delivery
Comments: A particular type of SRC focussed on pedagogical innovation and enhancement.	

Indicator 14 *Graduate survey: % indicating "satisfied" or "very satisfied" with:* a. *teaching* b. *curriculum* c. *career preparation* d. *Ryerson as a whole*	
Direct Indicator of:	***Related to:***
- graduate satisfaction in each of the specified areas	- quality of the student experience - program quality and success - student support systems and services
Comments: Extracted from the existing annual survey of graduates.	

Indicator 15 *Student Survey: % indicating "satisfied" or "very satisfied" with (for illustrative purpose only; see comment below) :* a. *teaching* b. *curriculum* c. *career preparation* d. *Ryerson as a whole*	
Direct Indicator of:	***Related to:***
- student satisfaction in each of the specified areas	- quality of the student experience - program quality and success student support systems and services
Comments: No suitable student survey instrument currently exists. This will be developed in consultation with stakeholder groups and is intended to be implemented in 2000/2001.	

Progress Indicators: Phase 2

Phase 2 of Ryerson's adoption of progress indicators will involve two elements. One is the ongoing refinement of the current indicators and their expansion, if required, into areas such as graduate programs. The other is the incorporation of indicators at the level of Schools and Departments, Faculties, and Centres. All academic units will be able to draw upon data collected through the general university-wide indicators, but many will want to identify additional or different ones to reflect their own specific objectives.

The determination of what, if any, additional indicators are to be adopted by individual programs will be linked to three closely related processes: the review of departmental/ faculty "mission statements", which is currently underway; the annual academic planning cycle; and, for program schools/departments, the periodic program review process. Additional information will be provided in separate document to schools, departments, and Faculties.

Selected References

Canadian Association of University Teachers *CAUT Policy on Performance Indicators*; CAUT, November, 1996

Council of Ontario Universities *Undergraduate Program Review Audit Committee Guidelines: Methodology for the Audit of Undergraduate Program Review*; February, 1995 (subsequent amendments)

Gilbert, S. *A Primer on Performance Indicators*; AUCC Research File 1(2), 1995

Maclean's *Survey of Canadian Universities* (annual)

Ryerson Polytechnic University (listed chronologically):

Academic Priorities; Office of the Vice President, Academic (annual)

The Periodic Review and Evaluation of Undergraduate Programs at Ryerson; Academic Council, May, 1996

Shaping our Future; Vision Task Group, May, 1997

Providing Knowledge for Life; President's Office, October, 1997

Performance Indicators: A Background Paper ; University Planning Office, February, 1998

Working Paper on Performance Indicators; Office of the Vice President, Academic and University Planning Office, May, 1998

Revised Working Paper on Performance Indicators; Office of the Vice President, Academic, March, 1999

COUNCIL OF
ONTARIO UNIVERSITIES

CONSEIL DES
UNIVERSITÉS DE L'ONTARIO

October 8, 1999

Hon. Dianne Cunningham
Minister of Training, Colleges and Universities
6th Floor Mowat Block
900 Bay Street
Toronto, ON
M7A 1L2

Dear Minister:

Education Quality, Funding and Enrolment Planning

We thank you for meeting with us on September 27, 1999 where we discussed the importance for Ontario of meeting ambitious goals for improving quality and ensuring accessibility of university education in our province. There was broad agreement about the goals and on the need for the government and the universities to work in partnership to reach them.

We were particularly grateful for your decision to charge the joint Working Group on University Capacity with advancing, on an urgent basis, the analysis required for the government to take its policy and funding decisions and for the universities to take their planning and management decisions.

We thought it would be useful to describe in further detail the situation as we see it. We also request a follow-up meeting in mid November to address outstanding issues. Such a meeting would constitute the key milestone for the analytical efforts of the Working Group this autumn.

We would like to stress at the outset that each of us is mindful of our societal obligations to provide quality educational experiences for students, and to ensure that all qualified applicants are well served by Ontario universities. Our universities share with government the commitment to meet the needs of Ontario for highly educated people in the knowledge-based economy. We recognize that this involves the challenge of accommodating the projected 40 per cent increase in demand for university enrolment in the next decade, including the double cohort of graduates seeking university admission in 2003. It also requires expansion of the number of graduate students to replace the retiring professoriate and to meet the demands of the economy for highly educated personnel. Furthermore it requires expansion of professional student enrolment to meet the demands of the professions and the communities they serve. The challenge includes the need to enhance the university research capacity to contribute to the competitiveness of the Ontario economy and to provide a rich and challenging learning environment for undergraduate and graduate students.

180 Dundas Street West, Suite 1100, Toronto, Ontario M5G 1Z8 416 979-2165 Fax 416 979-8635
E-mail ccu@ccupo.ccu.on.ca Web Site www.ccu.on.ca

As you know, the increased demand by Ontarians for university opportunities is already upon us. This year applications at Ontario universities from Ontario students were up by 5.8% over 1998/99. This fall, Ontario universities have 6.6% more full time first-year students than last year, which represents the highest year-over-year increase in a decade. Overall full-time enrolment is up 3.7%. It is now 47 months until the "double cohort" arrives and the "fast-trackers" from the old curriculum are only 35 months away. To be ready for this enrolment increase, serious planning within a clear funding framework is crucial. Providing more classrooms, laboratories, libraries, student services; recruiting faculty to teach additional students; and planning for program changes all require lead-time. To sustain current enrolments and permit additional enrolments for September 2000 (with offers of admission beginning in March 2000) financial parameters must be known by December 1999. For enrolment increases for September 2001 and beyond, a reliable funding framework must be in place by May 2000.

With the government, we projected the growth in enrolment in the coming years. As it turned out, this growth is occurring even faster than expected. Our universities have accommodated this increased student demand without additional operating grants under the assumption that plans to fund the overall expansion would be developed by this fall. We cannot do the same next year.

Ontario's universities have reached the limit of their ability to respond to these challenges without further sacrificing quality. Ad hoc responses to growth pressures threaten the quality of the education we have committed to provide to our current students. Ontario's universities have had an extraordinarily difficult time sustaining quality at national, let alone international, levels in the face of loss of $450 million in operating grants between 1992/93 and 1996/97. Most universities have now reached the limit of their capacity to enroll additional students within currently available resources. We must not betray our current students, and those we admit in the future, by admitting more than we can responsibly accommodate and provide with a quality education.

In order to make planning decisions for enrolment in September 2000, universities need to know by December 1999 whether the government will provide:

- full BIU operating funding for enrolment above the existing corridor midpoints,
- operating funding for the enhancement of the quality of teaching, learning and research, and
- operating funding for increases in unavoidable costs.

We understand that you are hopeful that commitments for capital construction can be made from the SuperBuild fund within a matter of weeks. Such commitments would, indeed, be most welcome. We also acknowledge the major changes and planned improvements in government student assistance programs and look forward to continuing to work with you in these important endeavours.

In order to plan for a significant expansion of enrolment in the years 2001/02, 2002/03 and 2003/04, universities need to know by May 2000:

- the medium-term framework for operating funding, and
- the medium-term framework for capital funding.

We urge the government to commit to a multi-year funding framework that will meet the needs of current enrolment, enrolment expansion, quality improvement and enhanced research competitiveness.

The government has recognized the need for more operating and capital funds to accommodate additional enrolment. It has recognized the need to improve the quality of post secondary education in Ontario to stay competitive with jurisdictions that are investing massively in public higher education. It has made the explicit commitment that "every willing and qualified Ontario student will continue to be able to attend college or university."

It is crucial for the government to set out, in a timely fashion, a multi-year funding framework that will allow universities to play their part in ensuring that these undertakings are fulfilled. Decisions in the coming months will influence opportunities for students for the next decade. We must, together, meet the challenge and ensure that tens of thousands of additional students are provided with the opportunity to pursue higher learning in Ontario.

We seek an opportunity to meet with you in mid November to review the state of play and discuss implications. In most of our institutions, it will be necessary to bring our enrolment planning proposals for discussion with our governing bodies before December 31, 1999 in order to be ready for any enrolment increases in the 2000/01 academic year.

Sincerely yours,

for David Atkinson
President, Brock University

Richard Van Loon
President, Carleton University

Mordechai Rozanski,
President, University of Guelph

Frederick Gilbert,
President, Lakehead University

Jean Watters,
President, Laurentian University

Peter George,
President, McMaster University

Dave Marshall,
President, Nipissing University

Marcel Hamelin, Rector, University of Ottawa
Recteur, Université d'Ottawa

William Leggett
Principal, Queen's University

Claude Lajeunesse
President, Ryerson Polytechnic University

Robert Prichard,
President, University of Toronto

Bonnie Patterson,
President, Trent University

David Johnston,
President, University of Waterloo

Paul Davenport
University of Western Ontario

Robert Rosehart,
President, Wilfrid Laurier University

Ross Paul,
President, University of Windsor

Lorna Marsden,
President, York University

Catherine Henderson,
President, Ontario College of Art & Design

COURSE CHANGE FORM

PROGRAM(S): Applied Geography

Route: **Chair/Director, Teaching Department; Dean; Secretary of Academic Council; Vice President, Academic**

Signature: Chair/Director, Teaching Department — Philip Coppal (Print / Sign) — Date: Oct 13 99

Signature: Dean, Teaching Faculty — Errol Aspevig (Print / Sign) — Date: Oct 13/99

Signature: Vice President, Academic — Mark Poth (Print / Sign) — Date: Oct. 21/99.

RECEIVED
OCT 14 1999
Nyerson Polytechnic University
Office of the
Vice President, Academic

Course Number & Name	Mark with "X"			List by Code Programs and Levels Affected	Hrs/Week		Indicate Yes/No				Rationale for Proposed Changes	Record of Necessary Approvals				
	Amended	Deleted	Added		Lecture	Lab/Studio /Other	Extra FTE's	Extra Library Resources Required	Computing/ Other Equipment Needed	Implement Date		Teaching Dept. Council	Program Dept. Council	Dean Teaching Faculty.	Liberal Studies Council	C.E.Division Council
GED 624 Introduction to Remote Sensing and GIS			X	GEOG 03 GEOG 04	2	1	no	no	no	Sept 2000	Both courses broaden the geotechnologies emphasis in the program and accommodate new changes in High School geography curriculum.	Oct 7/99	Oct 7/99			
GED 824 Advanced Applications in Remote Sensing and GIS			X	GEOG 03 GEOG 04	1	2	no	no	no	Jan. 2001		Oct 7/99	Oct 7/99			

Revised - October, 1995
File: C:\forms\course.frm

COURSE CHANGE FORM

PROGRAM(S): SOCIOLOGY

Route: **Chair/Director, Teaching Department; Dean; Secretary of Academic Council; Vice President, Academic**

Signature: Chair/Director, Teaching Department — M. Pomerance (Print) — Pomerance (Sign) — Date: Oct-21, 1999

Signature: Dean/Teaching Faculty — E. Aspevig (Print) — Earl Aspevig (Sign) — Date: Oct 25, 1999

Signature: Vice President, Academic — KATHLEEN KWAN for DENNIS MOCK (Print) — Kathleen Kwan (Sign) — Date: Oct 25/99

Course Number & Name	Mark with "X"			List by Code Programs and Levels Affected	Hrs/Week		Indicate Yes/No				Rationale for Proposed Changes	Record of Necessary Approvals				
	Amended	Deleted	Added		Lecture	Lab /Studies /Other	Extra FTE's	Extra Library Resources Required	Computing/ Other Equipment Needed	Implement Date		Teaching Dept. Council	Program Dept. Council	Dean Teaching Faculty.	Liberal Studies Council	C.E. Division Council
SOC302 The City & Society			X	GEOG03 GEOG04	3 hrs.		No	No	No	Fall 2000	To increase student elective choice	22 Sept. 99	7 Oct. 99	25 Oct 99		
SOC402 The City & Social Problems			X	GEOG03 GEOG04	3 hrs.		No	No	No	Winter 2001	To increase student elective choice	22 Sept. 99	7 Oct. 99	25 Oct 99		
SOC104 Introduction to Social Analysis			X	GEOG02	3 hrs.		No	No	No	Fall 2000	To increase student elective choice	22 Sept. 99	7 Oct. 99	25 Oct 99		
SOC300 The Sociology of Diversity			X	GEOG02	3 hrs.		No	No	No	Winter 2001	To increase student elective choice	22 Sept. 99	7 Oct. 99	25 Oct 99		

Revised - October, 1995
File: C:\forms\course.frm

COURSE CHANGE FORM

PROGRAM(S): SOCIOLOGY

Route: **Chair/Director, Teaching Department; Dean; Secretary of Academic Council; Vice President, Academic**

Signature: Chair/Director, Teaching Department — M. Pomerance (Print) — Pomerance (Sign) — Date: Oct. 21, 1999

Signature: Dean/Teaching Faculty — E. Aspevig (Print) — (Sign) — Date: Oct 25, 1999

Signature: Vice President, Academic — K-Kwan (Print) for D. Mock — (Sign) — Date: Oct 25/99

Course Number & Name	Mark with "X"			List by Code Programs and Levels Affected	Hrs/Week		Indicate Yes/No				Rationale for Proposed Changes	Record of Necessary Approvals				
	Amended	Deleted	Added		Lecture	Lab /Studies /Other	Extra FTE's	Extra Library Resources Required	Computing/ Other Equipment Needed	Implement Date		Teaching Dept. Council	Program Dept. Council	Dean Teaching Faculty.	Liberal Studies Council	C.E. Division Council
SOC025 Media & Society			**X**	**JRNL2 Elective Group B**	**3 hrs.**		**No**	**No**	**No**	**Fall 2000**	**To increase elective choice**	**22 Sept. 99**	**24 March 99**	Oct 25/99		

Revised - October, 1995
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PROGRAM(S): SOCIOLOGY

Route: **Chair/Director, Teaching Department; Dean; Secretary of Academic Council; Vice President, Academic**

Signature: Chair/Director, Teaching Department — M. Pomerance (Print) / Pomerance (Sign) — Date: Oct. 21, 1999

Signature: Dean/Teaching Faculty — E. Aspevig (Print) / Ervl Aspevig (Sign) — Date: Oct 25, 1999

Signature: Vice President, Academic — K. Kwan for D. Mock (Print) / Kok Kee (Sign) — Date: Oct 25/99

Course Number & Name	Mark with "X"			List by Code Programs and Levels Affected	Hrs/Week		Indicate Yes/No				Rationale for Proposed Changes	Record of Necessary Approvals				
	Amended	Deleted	Added		Lecture	Lab /Studies /Other	Extra FTE's	Extra Library Resources Required	Computing/ Other Equipment Needed	Implement Date		Teaching Dept. Council	Program Dept. Council	Dean Teaching Faculty.	Liberal Studies Council	C.E. Division Council
SOC525 Media & Images of Inequality			X	**UPLG TABLE II**	**3 hrs.**		**No**	**No**	**No**	**Fall 2000**	**To increase elective choice**	**22 Sept. 99**	**21 Sept. 99**	25 Oct 99		
SOC500 Youth & Society			X	**UPLG TABLE II**	**3 hrs.**		**No**	**No**	**No**	**Fall 2000**	**To increase elective choice**	**22 Sept. 99**	**21 Sept. 99**	25 Oct 99		
SOC504 Children & Society			X	**UPLG TABLE II**	**3 hrs.**		**No**	**No**	**No**	**Fall 2000**	**To increase elective choice**	**22 Sept. 99**	**21 Sept. 99**	25 Oct 99		
SOC300 The Sociology of Diversity			X	**UPLG TABLE II**	**3 hrs.**		**No**	**No**	**No**	**Fall 2000**	**To increase elective choice**	**22 Sept. 99**	**21 Sept. 99**	25 Oct 99		

Revised - October, 1995
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Route: **Chair/Director, Teaching Department; Dean; Secretary of Academic Council; Vice President, Academic**

Signature: Chair/Director, Teaching Department — M. Pomerance (Print) — P Pomerance (Sign) — Date: Oct. 21, 1999

Signature: Dean/Teaching Faculty — E. Aspevig (Print) — Carol Aspevig (Sign) — Date: Oct 25, 1999

Signature: Vice President, Academic — K. Kwan for D. Mock (Print) — K Kwan (Sign) — Date: Oct 25/99

Course Number & Name	Mark with "X"			List by Code Programs and Levels Affected	Hrs/Week		Indicate Yes/No				Rationale for Proposed Changes	Record of Necessary Approvals				
	Amended	Deleted	Added		Lecture	Lab /Studies /Other	Extra FTE's	Extra Library Resources Required	Computing/ Other Equipment Needed	Implement Date		Teaching Dept. Council	Program Dept. Council	Dean Teaching Faculty.	Liberal Studies Council	C.E. Division Council
SOC302 The City & Society			X	**ENVH07 ENVO07**	**3 hrs.**		**No**	**No**	**No**	**Fall 2000**	**To increase elective choice**	**22 Sept. 99**	**29 Sept. 99**	25 Oct 99		
SOC402 The City & Social Problems			X	**ENVH08 ENVO08**	**3 hrs.**		**No**	**No**	**No**	**Fall 2000**	**To increase elective choice**	**22 Sept. 99**	**29 Sept. 99**	25 Oct 99		

Revised - October, 1995
File: C:\forms\course.frm

COURSE CHANGE FORM

PROGRAM(S): SOCIOLOGY

Route: **Chair/Director, Teaching Department; Dean; Secretary of Academic Council; Vice President, Academic**

Signature: Chair/Director, Teaching Department — M. Pomerance (Print) / R O M (Sign) — Date: Oct. 21, 1999

Signature: Dean/Teaching Faculty — E. Aspevig (Print) / Ervol Aspevig (Sign) — Date: Oct 25 1999

Signature: Vice President, Academic — K. KWAN (Print) for D. MOCK / K Kwan (Sign) — Date: Oct 25/99

Course Number & Name	Mark with "X"			List by Code Programs and Levels Affected	Hrs/Week		Indicate Yes/No				Rationale for Proposed Changes	Record of Necessary Approvals				
	Amended	Deleted	Added		Lecture	Lab /Studies /Other	Extra FTE's	Extra Library Resources Required	Computing/ Other Equipment Needed	Implement Date		Teaching Dept. Council	Program Dept. Council	Dean Teaching Faculty.	Liberal Studies Council	C.E. Division Council
SOC706 Sociology of the Global Economy			**X**	**NEW Program in International Economics**	**3 hrs.**		**No**	**No**	**No**	**Fall 2000**	**To increase student elective choice**	**22 Sept. 99**	22 Sept. 99	25 Oct 99		

Revised - October, 1995
File: C:\forms\course.frm

RYERSON

OFFICE OF THE ASSOCIATE DEAN
SCHOOL OF BUSINESS MANAGEMENT, FACULTY OF BUSINESS
The Most Respected Undergraduate Business School in Canada.

To: Academic Council
From: School of Business Management
Date: October 6th, 1999.
Re: Professionally Related Electives Tables

At the Business Council meeting on October 4th, 1999, the School of Business Management approved the combining of Professionally Related Electives Table I and Professionally Related Electives Table II into one table entitled Professionally Related Electives Table I, for the 2000/2001 Calendar.

Tables I and II list the professionally related electives for years 3 and 4 of the B.Comm. Program, respectively. Since there is little to differentiate the two tables in terms of the level of the course offerings, and since there is considerable overlap between the courses in the two tables already, it was decided to rationalize the professionally related category, by combining the two tables. This will (a) simplify the program from the students' perspective, (b) make it easier for a student to obtain a minor, (c) eliminate the present need for multiple Curriculum Substitutions.

All courses in the current Table I and Table II will appear in the new combined table. The number of professionally related courses taken each year in each major remains the same. The selection just becomes wider.

The intent of our Professionally Related table still remains the same – to allow students to choose a minor without having to take extra courses. The School of Business Management continues to welcome minors from other schools across Ryerson. Given the wealth of exciting programs at Ryerson, we see minors as a way of enriching the educational experiences of all students.

If further information is required, please contact Lee Maguire, Associate Dean at 979-5061.

Lee Maguire
Associate Dean

Jack Radford
Interim Dean

Dennis Mock
Vice-President Academic

c.c. J.Radford, D.Mock, K.Kwan

COURSE CHANGE FORM

PROGRAM(S): BUSINESS MANAGEMENT

Route: **Chair/Director, Teaching Department; Dean; Secretary of Academic Council; Vice President, Academic**

Signature: Chair/Director, Teaching Department — L. Maguire (Print / Sign) — Date: 4 Oct 99

Signature: Dean, Teaching Faculty — J. Radford (Print / Sign) — Date: 6 Oct 99

Signature: Vice President, Academic — D. Mock (Print / Sign) — Date: Oct 12/99

Course Number & Name	Mark with "X"			List by Code Programs and Levels Affected	Hrs/Week		Indicate Yes/No				Rationale for Proposed Changes	Record of Necessary Approvals				
	Amended	Deleted	Added		Lecture	Lab/ Studio /Other	Extra FTE's	Extra Library Resources Required	Computing/ Other Equipment Needed	Implement Date		Teaching Dept. Council	Program Dept. Council	Dean Teaching Faculty.	Liberal Studies Council	C.E.Division Council
BIS 100 Business Information Systems I		X		BBMD1 SHTM1 FADS2						1/9/2000	This course will be replaced by ITM ??? as part of the elimination of the BIS option in the School of Business Management.	3/9/99	4/10/99			
BIS 405 Systems Analysis & Design I		X		BBMC4 TABLE I GEOG						1/9/2000	This course will be replaced by ITM ??? as part of the elimination of the BIS option in the School of Business Management.	3/9/99	4/10/99			
BIS 435 Database Programming		X		BBMC4, AIMD4, TABLE I, GEOG						1/9/2000	This course will be replaced by ITM ??? as part of the elimination of the BIS option in the School of Business Management.	3/9/99	4/10/99			

COURSE CHANGE FORM

PROGRAM(S): BUSINESS MANAGEMENT

Route: **Chair/Director, Teaching Department; Dean; Secretary of Academic Council; Vice President, Academic**

Signature: Chair/Director, Teaching Department — L. Maguire (Print) — Sign — Date: 4 Oct 99

Signature: Dean, Teaching Faculty — J. Radford (Print) — Sign — Date: 6 Oct 99

Signature: Vice President, Academic — D. Mock (Print) — Sign — Date: Oct 12/99

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	Amended	Deleted	Added		Lecture	Lab/ Studio /Other	Extra FTE's	Extra Library Resources Required	Computing/ Other Equipment Needed	Implement Date		Teaching Dept. Council	Program Dept. Council	Dean Teaching Faculty.	Liberal Studies Council	C. E. Division Council
ACC 507 Accounting for Managers			X	BBMA5-6 ~~TABLE1~~ GROUP 1 ITMS, GADN, SAIC, PADP	3					1/9/2000	This course will provide the students with an understanding of financial statements as a user rather than a preparer.	2/3/99	31/3/99			
ACC60~~#~~5 Public Sector Accounting			X	BBMA5-6 ~~TABLE1~~ GROUP 1 ITMS, GADN, SAIC, PADP	3					1/9/2000	This course will provide the students with the opportunity to learn about the accounting for not-for-profit and public sector operations.	2/3/99	31/3/99			
ACC607 Accounting for a Small Business			X	BBMA5-6 ~~TABLE1~~ ~~GROUP~~ 1 ITMS, GADN, SAIC, PADP	3					1/9/2000	This course will provide the students with the opportunity to learn about the accounting related issues of a private corporation..	2/3/99	31/3/99			
ACC621 Internal Auditing			X	BBMA5-6 ~~TABLE1~~ GROUP 1 ITMS, GADN, SAIC, PADP	3					1/9/2000	This course will provide the students with the opportunity to learn about the controls, administration and management issues of the auditor as an employee of the company.	2/3/99	31/3/99			

COURSE CHANGE FORM

PROGRAM(S): BUSINESS MANAGEMENT

Route: **Chair/Director, Teaching Department; Dean; Secretary of Academic Council; Vice President, Academic**

Signature: Chair/Director, Teaching Department — L. Maguire (Print) — (Sign) — Date: 4 OCT 99

Signature: Dean, Teaching Faculty — J. Radford (Print) — (Sign) — Date: 6 OCT 99

Signature: Vice President, Academic — D. Mock (Print) — (Sign) — Date: Oct. 12/99

Course Number & Name	Mark with "X"			List by Code Programs and Levels Affected	Hrs/Week		Indicate Yes/No				Rationale for Proposed Changes	Record of Necessary Approvals				
	Amended	Deleted	Added		Lecture	Lab/ Studio /Other	Extra FTE's	Extra Library Resources Required	Computing/ Other Equipment Needed	Implement Date		Teaching Dept. Council	Program Dept. Council	Dean Teaching Faculty.	Liberal Studies Council	C.E.Division Council
ACC804 Controversial Issues in Accounting			X	BBMA7-8 ~~TABLE1~~ GROUP1	3					1/9/2001	The Accounting program has been focussing on the requirements for students intending to seek an accounting designation. This course is for the majority of the Accounting option students who do not seek a designation, but seek employment in the accounting department of a private corporation.	2/3/99	31/3/99			January 1999
ACC808 International Accounting			X	BBMA7-8 ~~TABLE1~~ GROUP1	3					1/9/2001	The switch from nationally trading corporation to internationally trading and investing has made the need for an accounting course to deal with the issues, similarities and the differences in the accounting practices of these operations.	2/3/99	31/3/99			
FIN 501 Investment Analysis I		X		BBMA5-6	3					1/9/2000	This course can be selected by the accounting option students as a professionally related course. It was part of the Accounting option to accommodate the Accounting/Finance students.	2/3/99	31/3/99			
FIN601 Investment Analysis II		X		BBMA5-6	3					1/9/99	This course can be selected by the accounting option students as a professionally related course. It was part of the Accounting option to accommodate the Accounting/Finance students.	2/3/99	31/3/99			

COURSE CHANGE FORM

PROGRAM(S): BUSINESS MANAGEMENT

Route: **Chair/Director, Teaching Department; Dean; Secretary of Academic Council; Vice President, Academic**

Signature: Chair/Director, Teaching Department — L. Maguire (Print) — (Sign) — Date: 7 Oct 99

Signature: Dean, Teaching Faculty — J. Radford (Print) — (Sign) — Date: 6 Oct 99

Signature: Vice President, Academic — D. Mock (Print) — (Sign) — Date: Oct 12 99

Course Number & Name	Mark with "X"			List by Code Programs and Levels Affected	Hrs/Week		Indicate Yes/No				Rationale for Proposed Changes	Record of Necessary Approvals				
	Amended	Deleted	Added		Lecture	Lab/ Studio /Other	Extra FTE's	Extra Library Resources Required	Computing/ Other Equipment Needed	Implement Date		Teaching Dept. Council	Program Dept. Council	Dean Teaching Faculty.	Liberal Studies Council	C.E.Division Council
FIN 701 Financial Intermediation		X		BBMA7-8	3					1/9/2001	This course can be selected by the accounting option students as a professionally related course. It was part of the Accounting option to accommodate the Accounting/Finance students.	2/3/99	31/3/99			January 1999
FIN041 Canadian Business Finance		X		BBMA7-8	3					1/9/2001	This course can be selected by the accounting option students as a professionally related course. It was part of the Accounting option to accommodate the Accounting/Finance students.	2/3/99	31/3/99			

ACCOUNTING
FALL 1999 and WINTER 2000

CURRENT PROGRAM

Semester 1 FALL 1999	Semester 2 WINTER 2000	Semester 3 FALL 2000	Semester 4 WINTER 2001	Semesters 5 FALL 2001		Semesters 6 WINTER 2002	Semesters 7 FALL 2002		Semesters 8 WINTER 2003
5 Required	6 Required	5 Required	5 Required	5 Required	Req'd Group 1	5 Required	5 Required	Req'd Group 1	5 Required
ACC 100	ACC 406	ACC 414	ACC 514	1 LIBERAL	ACC 305	1 LIBERAL	BUS 800	ACC 703	2 from Table II
BIS 100	ECN 204	CMN 279	ACC 521	2 from Table i	ACC 504	2 from Table 1	1 from Table II	ACC 706	3 from Req'd Group 1
ECN 104	MGT 200	FIN 300	FIN 401	2 from Req'd Group I	ACC 522	2 from Req'd Group 1	1 LIBERAL	ACC 742	
QMS 102	MHR 405	MGT 401	LAW 122		ACC 801		2 from Req'd Group 1	ACC 821	
1 LIBERAL	MKT 100	1 LIBERAL	1 LIBERAL		ACC 803			ACC 842	
	QMS 202				FIN 501			FIN 041	
					FIN 601			FIN 701h	

PROPOSED PROGRAM of 2000/2001

Semester 1 FALL 1999	Semester 2 WINTER 2000	Semester 3 FALL 2000	Semester 4 WINTER 2001	Semesters 5 FALL 2001		Semesters 6 WINTER 2002	Semesters 7 FALL 2002		Semesters 8 WINTER 2003
5 Required	6 Required	5 Required	5 Required	5 Required	Req'd Group 1	5 Required	5 Required	Req'd Group 1	5 Required
ACC 100	ACC 406	ACC 414	ACC 514	1 LIBERAL	ACC 305	1 LIBERAL	BUS 800	ACC 703	2 from Table II
BIS 100	ECN 204	CMN 279	ACC 801	2 from Table i	ACC 504*	2 from Table 1	1 from Table II	ACC 706	3from Req'd Group 1
ECN 104	MGT 200	FIN 300	FIN 401	2 from Req'd Group I	ACC 521	2 from Req'd Group 1	1 LIBERAL	ACC 742	
QMS 102	MHR 405	MGT 401	LAW 122		ACC 522	2 from Req'd Group 1		ACC 821	
1 LIBERAL	MKT 100	1 LIBERAL	1 LIBERAL		ACC 803			ACC 842	
	QMS 202				**ACC 621 (Internal Auditing)**			**ACC 806 (Controversial Issues in Accounting)[§]**	
					ACC 604 (Public Sector Accounting)			**ACC 808 (International Accounting)[§]**	
					ACC 507 (Accounting for Managers)*				
					ACC 607 (Accounting for a Small Business)[§]				

* Students with a credit in ACC 504 cannot take ACC 507 for credit in the program and students with a credit in ACC 507 cannot take ACC 504 for credit in the program.
[§] These courses are underdevelopment

COURSE CHANGE FORM

PROGRAM (S): **Food and Nutrition**

Route : ☐**Chair/Director (Teaching Department)** ☐ **Dean** ☐ **Secretary of Academic Council** ☐**Vice President, Academic**

Signature	Chair/Director Teaching Department	**Jennifer Welsh** (Print) / Jennifer Welsh (Sign)	Date:	October 19/99
Signature	Dean, Teaching Faculty	**Judith Sandys** (Print) / Judith Sandys (Sign)	Date:	Oct. 19/99
Signature:	Vice President, Academic	**Dennis Mock** (Print) / Dennis Mock (Sign)	Date:	Oct 21/99

Course Number and Name	Mark with "X" Amend -ed	Delet -ed	Add -ed	List of Code Programs and Levels Affected	Hrs/Week Lecture	Lab/ Studio/ Other	Indicate Yes/No Extra FTE's	Extra Library Resources Required	Computing / Other Equipment Needed	Imple-ment Date	Rationale for Proposed Changes	Record of Necessary Approvals Teaching Dept. Council	Program Dept. Council	Dean Teaching Faculty	Liberal Studies Council	CE Division Council
FNDXXX Foods: Food and Nutrition Systems II			X	NCFS 3 & NCFS 4: Tables 1 and 2	3	-	no	no	no	Sept. 2000	New course gives continuity between the courses FND200 and FND400. All 3 courses will have new numbers to indicate the continuity. Enhanced Food and Nutrition Systems courses were recommended by the Dietitians of Canada	Sept 27, 1999	Sept 27, 1999	Oct 19, 1999		
FNN100 Nutrition: Nutrition & Health	X			NCFS 1	4	-	no*	no	no	Sept, 2000	Additional hour to FNN100 reflects inclusion of micronutrients in the introductory nutrition course, consistent with recommendations of Dietitians of Canada. *extra hour cost will be relieved in 2002/03 when FNN301 is changed from 4 hours to 3 hours.	Oct 18, 1999	Oct 18, 1999	Oct 19, 1999		

COURSE CHANGE FORM

PROGRAM (S): **Food and Nutrition**

Route : ☐**Chair/Director (Teaching Department)** ☐ **Dean** ☐ **Secretary of Academic Council** ☐**Vice President, Academic**

Signature	Chair/Director Teaching Department	**Jennifer Welsh** (Print)	Jennifer Welsh (Sign)	Date: Oct 19/99
Signature	Dean, Teaching Faculty	**Judith Sandys** (Print)	Judith Sandys (Sign)	Date: Oct. 19/99
Signature:	Vice President, Academic	**Dennis Mock** (Print)	Dennis R. Mock (Sign)	Date: Oct 21/99

Course Number and Name	Mark with "X" Amend-ed	Delet-ed	Add-ed	List of Code Programs and Levels Affected	Hrs/Week Lecture	Lab/ Studio/ Other	Indicate Yes/No Extra FTE's	Extra Library Resources Required	Computing / Other Equipment Needed	Imple-ment Date	Rationale for Proposed Changes	Record of Necessary Approvals: Teaching Dept. Council	Program Dept. Council	Dean Teaching Faculty	Liberal Studies Council	CE Division Council
CEDXXX Community Economic Development			X	NCFS 3 & 4: Tables 1 & 2	3	-	no	no	no	Sept 2000	Course will be available to students in Nutrition, the Family Supports Certificate, and others in the Faculty of Community Services	Oct 18, 1999	Oct 18, 1999	Oct 19, 1999		
Note to be added to Table 1 and 2 elective lists				NCFS 1 NCFS 2 NCFS 3 NCFS 4	NA	-	no	no	no	Sept 2000	Note to add to Table 1 and 2 elective lists professional and professional related electives : "All students graduating on or after June 2002 will be required to have one international or interdisciplinary project or course as part of their degree studies."	Sept 13, 1999	Sept 13, 1999	Oct 19, 1999		

Memorandum from

DEPARTMENT OF CIVIL ENGINEERING
SCHOOL OF CIVIL ENGINEERING
Civil Engineering Option • Geomatics Engineering Option

MEMORANDUM

To: K. Kwan, Secretary
Academic Council

From: R.J. Salvas, Chair

Date: October 15, 1999

Re: **Minor Changes, Civil Engineering Courses**

On September 23, 1999, the Departmental Council passed a motion regarding minor changes in the civil engineering courses. The list of changes is attached herewith.

There are no new courses but 1 hour of laboratory time has been added to the course CVL753 to assure that the geomatics engineering option has exactly the same number of program hours as the regular civil engineering program. There is no additional cost involved.

If you require any more information or explanation, please contact me.

Signed

R.J. Salvas

P. MacDonald, Chair
Departmental Council

Approved

D. Northwood, Dean
Faculty of Engineering and Applied Science

D. Mock, Vice President Academic

APPENDIX "A"
September 23, 1999 Departmental Council Meeting, Department of Civil Engineering

Changes to Course Descriptions:

Course Number	Current 1999/00 Calendar Reads:	Correction, For 2000/01 Calendar:
CVL 111	Prerequisite: PCS X11	**Prerequisite: PCS 211, Corequisite: CPS 125**
CVL 241	Prerequisite: CHY 118	**Prerequisite: CHY 102**
CVL 310	Prerequisites: CVL 320, CVL 324	**Prerequisites: CVL 420, CVL 424**
CVL 320	Corequisite: CVL 324	**Prerequisite: MTH 240** **Corequisite: CVL 324**
CVL 324	Corequisite: CVL 320	**Prerequisite: MTH 240** **Corequisite: CVL 320**
CVL 323	Precursors: CVL112, CVL 241, CVL 322	**Precursors: CVL 241, CVL 322**
CVL 420	Prerequisite: CVL 320 Corequisite: CVL 324	**Prerequisite: CVL 320, Precursor: CVL 324** **Corequisite: CVL 424**
CVL 424	Prerequisite: CVL 324 Corequisite: CVL 320	**Prerequisite: CVL 324, Precursor: CVL 320** **Corequisite: CVL 420**
CVL 423	Prerequisite: CHY 118	**Prerequisite: CHY 102**
CVL 312	Prerequisites: CVL 320, MTH 340	**Prerequisites: CVL 313, MTH 340**
CVL 313	Prerequisite: CVL 020	**Prerequisite: CVL 420**
CVL 314	Prerequisite: CVL 320	**Prerequisite: CVL 420**
CVL 533	Prerequisites: CVL 320, CVL 324	**Prerequisites: CVL 420, CVL 424**
CVL 835	Lect: 2 hrs./Lab: 1 hr.	**Lect: 2 hrs./Lab: 2 hrs.**
CVL 753	Lect: 1 hr./ Lab: 2 hrs.	**Lect: 1 hr./Lab: 3 hrs.**
CMN 441	Corequisite: CVL 741	**Corequisite: CVL 743**
CMN 442	Prerequisites: CMN 441, CVL 741	**Prerequisites: CMN 441, CVL 743** **Corequisite: CVL 843**
CVL 410	Prerequisite: CVL 313	**Prerequisite: CVL 314**
CVL 550	Prerequisite: CVL 112, CVL 323	**Prerequisite: CVL 323**

Other Calendar Changes:

1. Remove reference to "Survey Engineering" (page 39 of 1999/2000 Calendar).
2. Notation in Third Semester, CLER 3 (page 169 of 1999/00 Calendar) to read:
   Note: All required core courses in CLER 1 and CLER 2 are prerequisites to all required core courses in CLER 3.
3. Notation in Fourth Semester, CLER 4 (page 169 of 1999/00 Calendar) to read:
   Note: All required core courses in CLER 1 and CLER 2 are prerequisites to all required core courses in CLER 4.
4. Remove course descriptions for *CVL 741Advanced Structural Concrete Design* and *CVL745 Municipal Solid Waste Management* (page 427 of 1999/00 Calendar) , as these courses have been replaced by other courses.

COURSE CHANGE FORM

PROGRAM(S): Applied Chemistry and Biology

Route: Chair/Director, Teaching Department; Dean; Secretary of Academic Council; Vice President, Academic

Signature: Chair/Director, Teaching Department — **G. Turcotte** (Print / Sign) — Date: 14 October 1999

Signature: Dean, Teaching Faculty — Dr. S. A. Bocter (Print / Sign) — Date: Oct. 14, 99

Signature: Vice President, Academic — K. KWAN (Print) for D. Mock (Sign) — Date: Oct 25/99

Course Number & Name	Mark with an "X"			List by Code Programs and Levels Affected	Hours/Week		Indicate Yes/No				Rationale for Proposed Changes	Record of Necessary Approvals				
	Amended	Deleted	Added		Lecture	Lab./ Studio/ Other	Extra FTE's	Extra Library Resources Required	Computing/ Other Equipment Needed	Implement Date		Teaching Dept. Council	Program Dept. Council	Dean, Teaching Faculty	Liberal Studies Council	C.E. Division Council
CHE 428		X		CABC 07/08 CABS 07/08	3		N	N	N	F2000	Replace with CHY 428 – same course content	09/30/99	09/30/99			
CHY 428			X	CABC 07/08 CABS 07/08	3		N	N	N	F2000	Replaces CHE 428 – same course content	09/30/99	09/30/99			

COURSE CHANGE FORM

PROGRAM(S): Applied Chemistry and Biology

Route: Chair/Director, Teaching Department; Dean; Secretary of Academic Council; Vice President, Academic

Signature: Chair/Director, Teaching Department — G. Turcotte (Print) / G. Turcotte (Sign) — Date: 14 October 1999

Signature: for Dean, Teaching Faculty — Dr. S. A. Bector (Print) / (Sign) — Date: Oct. 14, 99

Signature: Vice President, Academic — K. KWAN (Print) / (Sign) — Date: OCT 25/99
for D. Mock

Course Number & Name	Mark with an "X"			List by Code Programs and Levels Affected	Hours/Week		Indicate Yes/No				Rationale for Proposed Changes	Record of Necessary Approvals				
	Amended	Deleted	Added		Lecture	Lab./ Studio/ Other	Extra FTE's	Extra Library Resources Required	Computing/ Other Equipment Needed	Implement Date		Teaching Dept. Council	Program Dept. Council	Dean, Teaching Faculty	Liberal Studies Council	C.E. Division Council
CHY 445 Materials Chemistry			X	CABC 08 CABS 08	3	1 L	N	N	Y	W 2001	New professionally related elective	10/14/99	10/14/99			
BLG 401 Ecotoxicology			X	CABC 08 CABS 08	3	1.5 L	N	N	Y	W2001	New professionally related elective	10/14/99	10/14/99			
BLG 402 Limnology			X	CABC 08 CABS 08	2	1 T	N	N	N	W2002	New professionally related elective	10/14/99	10/14/99			

COURSE CHANGE FORM

PROGRAM(S): APPLIED COMPUTER SCIENCE

Route: Chair/Director, Teaching Department; Dean; Secretary of Academic Council; Vice President, Academic

Signature: Chair/Director, Teaching Department — Dr. C. Alexopoulos (Print) / C Alexopoulos (Sign) — Date: Oct 21, '99

Signature: Dean, Teaching Faculty — Dr. D. Northwood (Print) / D.O. Northwood (Sign) — Date: 99.10.21

Signature: Vice President, Academic — Dr. D. Mock (Print) / Kathleen Kwan for Dennis Mock (Sign) — Date: Oct 25/99

Course Number & Name	Mark with "X"			List by Code Program s and Levels Affected	Hrs/Week		Indicate Yes/No				Rationale for Proposed Changes	Record of Necessary Approvals				
	Amended	Deleted	Added		Lecture	Lab/Studio /Other	Extra FTE's	Extra Library Resources Required	Computing/ Other Equipment Needed	Implement Date		Teaching Dept. Council	Program Dept. Council	Dean Teaching Faculty.	Liberal Studies Council	C.E.Division Council
CPS759 Systems/390 Systems Development		X		CSCI 5/7	3					F2000	We no longer have a mainframe to run these three courses	Oct 21/99	Oct 21/99			
CPS760 Systems/390 Application Development I		X		CSCI 5/7	3					F2000		Oct 21/99	Oct 21/99			
CPS 860 Systems/390 Application Development II		X		CSCI 6/8	3					F2000		Oct 21/99	Oct 21/99			

Revised - October, 1995
File: C:\forms\course.frm

NOMINATING REPORT

VACANCIES ON ACADEMIC COUNCIL COMMITTEES

For Student Discipline Committee

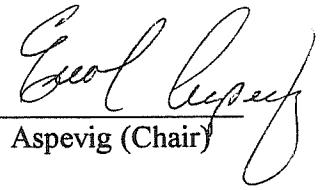
Nominee		
Mark Gunaratnam	Student	Chemistry, Biology and Chemical Engineering

For Learning and Teaching Committee

Nominee		
George Jacob	Student	Industrial Engineering

For Research and Ethics Board (R.E.B.)

Nominee		
Aaron Laslo	Student	Business Management



E. Aspevig (Chair)

MEMBERSHIP

Errol Aspevig (Chair)
Erin George
Robert Haines
Naushad Jamani
Katherine Penny
Peter Pille
Judith Sandys
Chris Stoute
Sandra Tullio-Pow

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REPORT 1999(1) OF THE ACADEMIC STANDARDS COMMITTEE

NOVEMBER 2, 1999

The full documentation of each proposal referred to in this report and all other reports of the Standards Committee is available for review in the office of the Secretary of Academic Council.

PART I: PROGRAM PROPOSALS: APPROVALS AND REVISIONS

In Part I of this report we bring to Council our recommendation on two items: a proposed *Bachelor of Arts degree program in International Economics*; and a proposed Minor in *Accounting.*

A. Proposed Bachelor of Arts Degree Program in International Economics

The proposed International Economics program responds to a need for well trained economists who understand the opportunities and risks inherent in the growing trend towards global integration, and who can evaluate and manage risks in a global setting. It seeks to instill in its students a solid base of knowledge and skills in international economic theory, data acquisition and manipulation, modelling, and forecasting, while also providing extensive exposure to the study of social, political, and political factors that influence national economies. Graduates of the program are expected to have strong applied and operational skills that will position them to work for outward-looking businesses and for government and international agencies.

The program is designed to achieve four learning objectives:

- analytical proficiency in general economic theory, statistics, international economics, and theory of finance.
- contextual knowledge, including knowledge of the international economy, basic business practices, and comparative economic relations.
- communication skills: oral, written, and digital.
- integrated learning.

The program curriculum (see appendix following Part I of this report for overview) is to be offered in two formats: a "regular option" in which students take 41 one-semester course equivalents including a one-credit work term, and an "extended internship option" in which students take 44 one-course equivalents including a four term, four credit internship.

Discounting the work term/internship, the program comprises 20 professional courses, 14 professionally-related, and 6 liberal studies. This curriculum balance meets Ryerson's tripartite guidelines. A number of professionally-related courses are drawn from those normally offered by Ryerson in the liberal studies category as a consequence of the large number of such courses that deal with aspects of internationalization. Students will be required to take 6 liberal studies over and above these "crossover" courses, thereby ensuring that the program adheres strictly to Ryerson's policies on liberal studies in program curricula.

The academic requirement for admission is the O.S.S.D. with six OAC credits, including OAC credits in English and Calculus, with a minimum average of 70%. (The preferred English is OAC 1.)

Societal need for the program has been assessed by several means. Potential employer demand has been tested by a survey of the Toronto Area Business Economists (TABE) and input from the Program Advisory Committee. Student demand has been projected based on a survey of secondary school guidance councillors and current Ryerson students, and by focus group meetings with selected high school classes. In both cases, the outcomes have been favourable. Additionally, a survey of other Canadian universities confirms that none offer an undergraduate program with a strong focus on applied international economics and that very few economics programs provide work experience opportunities.

The proposed program has been examined by a Peer Review Team (PRT), the members of which were Dr. Albert Berry (Professor, Department of Economics, University of Toronto), Dr. Terry Levesque (Associate Professor, Department of Economics, Wilfrid Laurier University), and Mary Jo Nicholson (Professor, Ryerson School of Business Management). The PRT offered a strong endorsement of the program in respect to curriculum orientation and content, responsiveness to demonstrated need, the capacity of the department to offer the curriculum, and distinctiveness within the Canadian university sector. The team questioned whether the program might be a little too narrow and inflexible, a concern which led the Economics department to add an elective slot and reposition certain courses in the program. The PRT commented in some detail on the need to manage the program's implementation carefully, especially in the areas of student recruitment and the internship component. These suggestions have been incorporated into the department's implementation planning.

The designation *Bachelor of Arts* is new to Ryerson. It is preferred by the Economics department because of its widespread recognition by students, employers, the profession, and graduate schools. The program is clearly applied in nature, by virtue of its philosophy, curriculum content and structure, and faculty disposition, and is therefore consistent with Ryerson's mandate.

Having satisfied itself of the academic merit of the proposal, the Standards Committee recommends:

> That Academic Council endorse the proposed Bachelor of Arts program in International Economics.

B. Proposed Minor in Accounting

The proposed Accounting Minor has been developed to serve the academic needs of Business Management students, excluding those in the Accounting option, and other Ryerson students who wish to develop an academic focus on either General Accounting or Public Sector Accounting. The courses included in this Minor have been chosen to provide future business managers and entrepreneurs with a sound understanding of the accounting functions of a business. The Minor is not intended to lead towards a professional accounting designation, but some individual courses may be applicable towards professional requirements.

Initially, the Minor is to be offered to students in Business Management (excluding the Accounting option) and Public Administration. Three additional programs are currently considering its adoption.

The Minor requires students to take six courses as set out below. Four of the courses have been newly developed.

<u>For Public Administration Students, and Business Students Outside the Finance Option</u>

To receive the Minor, students must complete:

ACC 100:	Introductory Financial Accounting
ACC 406:	Introductory Management Accounting
ACC 414:	Intermediate Accounting I
ACC 507:	Accounting for Managers

and *two* from one of the following categories, with at least one of the two being an ACC course.

General Accounting

ACC 514:	Intermediate Accounting II
ACC 502:	Taxation
ACC 607:	Accounting for a Small Business
LAW 603:	Advanced Business Law
LAW 529:	Labour Law*

Public Sector Accounting

ACC 604:	Public Sector Accounting
ACC 621:	Internal Auditing
LAW 529:	Labour Law*

(* Students from the Human Resources Major cannot count LAW 529 towards the Minor, as it is a required course in the Major.)

<u>For Students in the Finance Option</u>

The curriculum for the Finance option varies slightly from that listed above in recognition of the fact that these students bring a somewhat stronger Accounting background to the Minor.

To receive the Minor, students must complete:

ACC 414:	Intermediate Accounting I
ACC 507:	Accounting for Managers

and *four* courses from either of the two following categories, with at least three of the four being ACC courses:

General Accounting:

ACC 514:	Intermediate Accounting II
ACC 522:	Taxation
ACC 607:	Accounting for Small Business
ACC 801:	Cost and Management Accounting II
LAW 603:	Advanced Business Law
LAW 529:	Labour Law

Public Sector Accounting

ACC 514:	Intermediate Accounting II
ACC 522:	Taxation
ACC 604:	Public Sector Accounting
ACC 621:	Internal Auditing
LAW 603:	Advanced Business Law
LAW 529:	Labour Law

Recommendation:

Having satisfied itself of the academic merit of the proposal, the Academic Standards Committee recommends:

That Academic Council approve the proposed Minor in Accounting.

PART II: PROGRAM REVIEWS

Background

In Part II of this report we bring to Council our conclusions and recommendations pertaining to reviews of five engineering programs: *Aerospace, Civil, Electrical, Industrial*, and *Mechanical.*

Members of Academic Council are reminded that in April, 1999, Council endorsed the *Food and Nutrition* program review, the first to be completed under *The Periodic Review and Evaluation of Undergraduate Programs at Ryerson* (Academic Council Policy # 126, 1996). By this policy and its associated procedures, all programs are reviewed on a cyclical basis with respect to academic quality, societal need, and financial viability. Members are directed to the April report of the Academic Standards Committee (Report #141) for a brief introduction to the policy and procedures.

Introduction to the Engineering Program Reviews

Ryerson's engineering programs undergo a demanding professional accreditation process, conducted under the auspices of the Canadian Engineering Accreditation Board (CEAB). The professional review addresses, among other things, program quality issues related to faculty, staff, students, resources and facilities, curriculum, and program strengths and weaknesses. An external expert review is integral to the accreditation process and plays a role akin to that

played by the external peer review team in Ryerson's periodic program review process. The CEAB assessment therefore complements the University's program review procedures in many respects and, as with *Food and Nutrition*, the analysis and documentation associated with engineering accreditation have been applied in partial satisfaction of internal review requirements.

The program self-studies used in this round of reviews were prepared to support site visits (external expert evaluations) and other CEAB assessments that occurred in October, 1997. The time lapse between those visits and this report to Council is a product of four factors: the time required by the accreditation board to prepare full assessment reports based on the site visits; the time needed by each of the programs to prepare detailed responses to the assessment; delays created because of the Standards Committee's own agenda; and relatively small but significant variations between the CEAB and Ryerson assessment criteria, which necessitated that the engineering programs provide additional information in respect to societal need and their developmental plans. During the intervening period, each of the five engineering programs have responded to many of the concerns expressed by the accrediting body.

The CEAB reached positive conclusions about Ryerson's engineering programs as a group. Specific comments focussed on the interest and enthusiasm of engineering students, the dedication of faculty "to providing an excellent educational experience", and leadership both within the Faculty and the University in steering the programs through the critical transition period from technology to engineering education. Curriculum content and structure were endorsed strongly, with only a very few criticisms being put forward. The CEAB indicated concerns in a number of other categories including: program insularity; high levels of student failure and attrition; and the difficulty of attracting and retaining high quality new faculty because of an onerous teaching load and relatively low salaries.

A. Civil Engineering

Program Description

The objectives of Ryerson's Civil Engineering program are:

- to provide an accredited, career-oriented academic program to undergraduate students who in turn will provide service as professionals in civil engineering.
- to provide students with relevant, up-to-date core courses and interaction with professional faculty involved in research, consulting activities, and close ties to industry.
- to provide graduates with a sufficiently broad background in complementary studies, the humanities, and social sciences to make them aware of their responsibilities to society and their peers.
- to provide graduates with the ability and motivation to continue to learn and to be flexible enough to cope with new technologies and employment opportunities.

In support of these objectives, Civil Engineering offers a curriculum of 53 one-semester course equivalents. Of these, 31 are required core Civil courses and 16 are required courses from departments including Mathematics, Physics, and Computer Science, Chemistry, Economics, and Business and Technical Communication. There are six liberal studies courses. The curriculum encompasses the four main disciplines of civil engineering: structural, geotechnical,

transportation, and environmental engineering. In addition to the "regular" program, students entering third year can elect to pursue a two year Geomatics option. The curriculum for this option is similar in structure to that of the regular program, but differs in course details.

Admission requirements are six OAC credits including English, Calculus, Algebra and Geometry, Physics, and Chemistry. The number of students enrolled in first year is currently about 70, making this one of the larger Civil Engineering programs in Canada. The mean average of incoming students in Fall 1998 (most recent data available) was 71.6%.

Data obtained through the one-year-out survey indicate that employer demand for the program's graduates is relatively strong, with a wide distribution across both related and unrelated career fields. Additional information obtained from the program department reveals a significant number and range of job opportunities for graduates. Student demand is not strong and shows a declining trend, which is the case for civil engineering programs across the university system.

Program Strengths and Weaknesses

The department's self-study identifies the following strengths: strong ties with industry; opportunities for professional and industrial linkages resulting from Ryerson's location; and the generalist nature of the program, relative to others of its type. Additional strengths are noted by CEAB, including effective leadership, the effective treatment of communication and health and safety issues in the curriculum, and a positive approach to the program exhibited by faculty, staff, and students

Weaknesses and challenges identified in the self-study include the declining number of applications for admission, difficulty in attracting a high enough proportion of well-qualified students, a high student attrition rate, and a relatively low level of faculty SRC activity. The lack of a suitable structural testing laboratory has also been noted as a major weakness.

Response to Identified Weaknesses

- Curriculum change has already taken place, partially in response to CEAB comments.
- As no suitable site exists on campus for a structural testing laboratory, an off-campus facility is now being established as an interim measure.
- Along with the other engineering programs, Civil offers a first year transition program whereby students experiencing difficulty in adjusting to the demands of their program are provided with an immediate opportunity for academic upgrading.
- The issue of student demand is being addressed both by the program and, on a nation-wide basis, by the "Heads of Civil Engineering".
- A program of faculty renewal is underway.

Other identified weaknesses are being addressed under the auspices of the Dean, the department, and, where appropriate, the Vice President, Academic..

Recommendation

The Academic Standards Committee has concluded that the program review for Civil Engineering meets all substantive and procedural requirements set out by Ryerson, and that the program satisfies University expectations in respect to academic quality and societal need. We therefore recommend:

That Academic Council endorse the Civil Engineering program review as submitted.

B. Electrical Engineering

Program Description

The objectives of Ryerson's Electrical Engineering program are, in part:

- to provide ... an academic program which combines rigorous theoretical and analytical foundation and practical, real-world problem solving skills.
- to provide ... a curriculum which, through a combination of professional education and liberal studies, offers the breadth and depth required to appreciate society's broader problems and issues, and the basic human understanding and knowledge necessary for professional leadership.
- to provide motivated, responsive, and responsible academic leadership ... which facilitates the dissemination and transfer of new knowledge and technology to and from the profession, industry, business, government, and the community.
- to develop students' professional knowledge and skills, self-confidence, critical inquiry, creativity, commitment to lifelong learning, and capacity to contribute to the engineering profession and to apply their knowledge to real-world problems.

In support of these objectives, Electrical Engineering offers a curriculum of 46 one-semester course equivalents. Of these, 32-34 are required professional and professionally-related, 8-10 are professional and professionally-related electives, and 6 are liberal studies electives. In the first four semesters, the curriculum is common to all Electrical Engineering students. Beginning in fifth semester, students may follow either the regular electrical program or a Computer Engineering option. Another significant program element is the optional industrial internship program, whereby academically qualified students may spend 12-16 months following third year as engineering interns.

Admission requirements are six OAC credits including Calculus, Algebra and Geometry, Physics, Chemistry, and English, 60% or higher. More than 500 undergraduate students are enrolled in the program, with a current first year enrolment of approximately 270. This represents an increase from former first year levels as a result of the program's inclusion in ATOP (Access to Opportunities Program), effective Fall, 1998. The mean average of incoming students in Fall, 1998 (most recent data available) was 79.2%.

Societal need for the program is strong. Data from the one-year-out survey indicate that graduates enter the career field quickly and in a variety of work domains. Student demand is strong and shows a continuing growth trend.

Program Strengths and Weaknesses

The self-study identifies the following strengths: highly dedicated faculty and staff; highly qualified new faculty with excellent research potential; ongoing professional development by faculty; a strong, active Program Advisory Committee; high student and faculty morale; a relevant, up-to-date curriculum; and excellent computing and laboratory facilities.

Weaknesses and challenges that have been identified include: limited budgetary resources; faculty renewal, and the retention of highly qualified faculty members; high undergraduate failure and attrition rates, especially in first year; and, the lack of graduate programs.

Response to Identified Weaknesses

- Graduate program development is active and ongoing.
- A first year student advisor has been mandated to assist in the adjustment process.
- First year transition program (see above).
- Curriculum adjustments have been made, and are continuing to be made, partially in response to CEAB suggestions.

Other identified weaknesses are being addressed under the auspices of the Dean, department, and where appropriate, the Vice President, Academic.

Recommendation

The Academic Standards Committee has concluded that the program review for Electrical Engineering meets all substantive and procedural requirements set out by Ryerson, and that the program satisfies University expectations in respect to academic quality and societal need. We therefore recommend:

That Academic Council endorse the Electrical Engineering program review as submitted.

C. Aerospace Engineering, Industrial Engineering, and Mechanical Engineering

As these programs are all administered by the Mechanical Engineering Department, there is significant overlap in the review documentation presented to the CEAB and Academic Standards Committee. In this report, we will provide a single commentary on aspects common to the three programs, and separate discussions of individual programs where relevant.

Common Elements

Program Goals

The goal of each program is to produce graduates who can:

- practice engineering successfully either as employees or through self-employment.
- pursue post-graduate studies in engineering and related fields.
- fulfill short and long term career aspirations.

- assume leadership positions in all sectors of the profession.

Graduates are also expected to communicate well, demonstrate sensitivity to the society and environment in which they live, appreciate equity and cultural issues, and understand the nature of environmental impacts and sustainable development.

Program Strengths and Weaknesses

The self-studies indicate the following strengths: enthusiastic faculty and support staff; a hard-working, diverse student body (more students enter with work experience than is typical of similar programs elsewhere); a very close working relationship among the three programs housed in the Mechanical Department; the programs' distinctive focus on applications; the Program Advisory Committee; and an excellent program environment including laboratory, computer, and library facilities.

Weaknesses and challenges identified include: a need for further time to allow the impacts of developments already undertaken to be fully realized (e.g. new faculty hiring priorities, development of graduate programs, SRC intensification); limited budgetary resources; a high student attrition rate; and a lack of external recognition of how the individual programs and the University have changed over the past few years.

Response to Identified Weaknesses

- Curriculum adjustments have been made in each of the three programs.
- A program of faculty renewal is well underway.
- The use of teaching assistants has been increased where appropriate.
- New collaborations with industry have been established.

Other identified weaknesses are being addressed under the auspices of the Dean, the department, and where appropriate the Vice President, Academic.

1. Aerospace Engineering

The Aerospace program offers a curriculum of 49 one-term course equivalents. Sixteen are required core courses in Aerospace Engineering, addressing topics such as aerodynamics, stress analysis and structural design, flight mechanics, and stability and control. Twenty-seven required courses are courses drawn from departments including Mechanical Engineering; Mathematics, Physics, and Applied Computer Science; Business and Technical Communication; and Economics. Six courses are liberal studies. Academically qualified students may elect to do a 12-16 month industrial internship after third year.

Admission requirements are six OAC credits including English, Calculus, Algebra and Geometry, Physics, and Chemistry. Prior to 1999, Aerospace admitted approximately 90-100 students per year. With the program's inclusion in ATOP (Access to Opportunities Program), the number of students admitted to first year increased to 121 in Fall, 1999 and total program enrolment should move towards 300 as the effects of this increase are felt. The mean average of incoming students is high - 79.1% in Fall, 1998.

Data from the one-year-out survey indicate strong employer demand for graduates, and letters from employers attest to the preparedness of graduates to enter the field. Student demand is high and the trend is towards increasing numbers of applicants for admission.

Recommendation

The Academic Standards Committee has concluded that the program review for Aerospace Engineering meets all substantive and procedural requirements set out by Ryerson, and that the program satisfies University expectations in respect to academic quality and societal need. We therefore recommend:

> That Academic Council endorse the Aerospace Engineering program review as submitted.

2. Industrial Engineering

The Industrial Engineering program offers a curriculum of 49 one-semester course equivalents. Of these, 19 are required core courses and 24 are required courses drawn from several departments including Mechanical, Chemistry, Psychology, Business and Technical Communication. Six courses are liberal studies. A particular emphasis of the program is effectiveness and efficiency in the design, operation, and management of complex manufacturing systems.

Academically qualified students may opt to do a 12-16 month industrial internship after third year.

Admission requirements are six OAC credits including English, Calculus, Algebra and Geometry, Physics, and Chemistry. About 50 students are admitted into first year, and in Fall, 1998 the mean average of incoming students was 73.8%.

Data from the one-year-out survey indicate that employer demand is strong. Graduates move quickly and successfully into their professional field and also into other fields, which is reflective of the broad academic base of the Industrial Engineering program. Student demand is relatively strong and stable.

The Academic Standards Committee requested additional explanation from the program as to why IND 302: Engineering Finance I, and IND 402: Engineering Finance II, are taught by the program department rather than by the School of Business Management. The department's response demonstrated to our satisfaction that a significant portion of course content is specific to the engineering field. We wonder whether there may be the potential for the two departments to engage in a more collaborative approach over the longer term, and would suggest that this be explored.

Recommendation

The Academic Standards Committee has concluded that the program review for Industrial Engineering meets all substantive and procedural requirements set out by Ryerson, and that the program satisfies University expectations in respect to academic quality and societal need. We therefore recommend:

> That Academic Council endorse the Industrial Engineering program review as submitted.

3. Mechanical Engineering

The Mechanical Engineering program offers a curriculum of 48 one-semester course equivalents. Of these, 26 are required core courses, 3 are professional electives, and 13 are required courses from several departments including Chemistry, Business and Technical Communication, Economics, and Electrical Engineering. There are six liberal studies courses. Academically qualified students may opt to do a 12-16 month industrial internship after third year.

Admission requirements are six OAC credits including English, Calculus, Algebra and Geometry, Physics, and Chemistry. Admission to first year is approximately 130, and the mean average of incoming students in Fall, 1998 was 76.0%.

Data from the one-year-out survey indicate that employer demand is strong, with a very high percentage of graduates employed in a field closely related to their program. Student demand is strong and shows a growth trend.

Recommendation

The Academic Standards Committee has concluded that the program review for Mechanical Engineering meets all substantive and procedural requirements set out by Ryerson, and that the program satisfies University expectations in respect to academic quality and societal need. We therefore recommend:

> That Academic Council endorse the Mechanical Engineering program review as submitted.

Respectfully Submitted:

Dennis R. Mock, for the ASC

K. Alnwick	M. Braun
S. Cody	R. Goldsmith
N. Jamani	K. Kellett-Betsos
B. Kelsey	J. Li
D. Mason	D. McKay
R. Pushchak	B. Rabinowicz
D. Taylor	N. Zaver
M. Zeytinoglu	E. Zon

APPENDIX: International Economics Curriculum Overview

CURRICULUM, REGULAR AND EXTENDED INTERNSHIP OPTIONS

FIRST SEMESTER (Regular and Extended Internship Options)

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ACCOUNTING: Introductory Financial Accounting	ACC 100	1	3	1
ECONOMICS: Introductory Microeconomics	ECN 104	1	3	
ECONOMICS: Evolution of the Global Economy I	ECN 120	1	3	

LIBERAL STUDIES ELECTIVE GROUP A:
One one-term course required from Table A

PROFESSIONALLY RELATED ELECTIVE GROUP B:
Select one one-term course from Table 1

SECOND SEMESTER (Regular and Extended Internship Options)

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ECONOMICS: Introductory Macroeconomics	ECN 204	1	3	
ECONOMICS: Evolution of the Global Economy II	ECN 220	1	3	
QUANTITATIVE METHODS: Calculus for Business	QMS 702	1	3	

LIBERAL STUDIES ELECTIVE GROUP A:
One one-term course required from Table A

PROFESSIONALLY RELATED ELECTIVE GROUP B:
Select one one-term course from Table 1

THIRD SEMESTER **(Regular and Extended Internship Options)**

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ECONOMICS: Intermediate Macroeconomics I	ECN 301	1	3	
ECONOMICS: Information Resources for Economists	ECN 320	1	3	
ECONOMICS: Intermediate Microeconomics I	ECN 504	1	3	
ECONOMICS: Economic Systems in the New World Economy	ECN 508	1	3	
FRENCH: A French course or SPANISH: A Spanish course, level subject to placement *		1	3	

FOURTH SEMESTER **(Regular and Extended Internship Options)**

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ECONOMICS: Statistics for Economics	ECN 420		1	3
ECONOMICS: Intermediate Macroeconomics II	ECN 600		1	3
ECONOMICS: Intermediate Microeconomics II	ECN 700		1	3
FINANCE: Managerial Finance	FIN 401		1	3
FRENCH: A French course or SPANISH: A Spanish course, level subject to placement *		1	3	

* Students may choose a language other than French or Spanish, subject to the approval of the program advisor who will issue a Letter of Permission to take the course at another university.

FIFTH SEMESTER (Regular and Extended Internship Options)

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ECONOMICS: Industrial Organization	ECN 501	1	3	
ECONOMICS: Econometrics	ECN 627	1	3	
ECONOMICS: International Economics	ECN 707	1	3	
FINANCE: Investment Analysis I	FIN 501	1	3	

LIBERAL STUDIES ELECTIVE GROUP A:
One one-term course required from Table B

SIXTH SEMESTER (Regular and Extended Internship Options)

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ECONOMICS: International Monetary Issues	ECN 606	1	3	
ECONOMICS: Economic Forecasting	ECN 702	1	3	
FINANCE: Investment Analysis II	FIN 601	1	3	
PHILOSOPHY: Beyond the Western Academic Tradition	PHL 621	1	3	

LIBERAL STUDIES ELECTIVE GROUP A:
One one-term course required from Table B

SEVENTH SEMESTER (Regular Option)

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ECONOMICS: Work Term I	WKT 100			2
ECONOMICS: Seminar course	ECN 720	1	3	
ECONOMICS: International Financial Markets	ECN 721	1	3	
HISTORY: Understanding International Relations 1945-1990	HST 500	1	3	

LIBERAL STUDIES ELECTIVE GROUP A:
One one-term course required from Table B

PROFESSIONALLY RELATED ELECTIVE GROUP B:
Select one one-term course from Table 2

EIGHTH SEMESTER (Regular Option)

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ECONOMICS: Project	ECN 820	1	3	
ECONOMICS: Country Risk Analysis	ECN 821	1	3	

LIBERAL STUDIES ELECTIVE GROUP A:
One one-term course required from Table B

PROFESSIONALLY RELATED ELECTIVE GROUP B:
Select <u>two</u> one-term courses from Table 2. Students planning a career in exporting are encouraged to choose MGT 723 as one of the electives.

SEVENTH AND EIGHTH SEMESTERS (Extended Internship Option)

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ECONOMICS: Work Term	WKT 077	4		2

NINTH SEMESTER (Extended Internship Option)

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ECONOMICS: Seminar course	ECN 720	1	3	
ECONOMICS: International Financial Markets	ECN 721	1	3	
HISTORY: Understanding International Relations 1945-1990	HST 500	1	3	

LIBERAL STUDIES ELECTIVE GROUP A:
One one-term course required from Table B

PROFESSIONALLY RELATED ELECTIVE GROUP B:
Select one one-term course from Table 2

TENTH SEMESTER (Extended Internship Option)

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ECONOMICS: Project	ECN 820	1	3	
ECONOMICS: Country Risk Analysis	CN 821	1	3	

LIBERAL STUDIES ELECTIVE GROUP A:
One one-term course required from Table B

PROFESSIONALLY RELATED ELECTIVE GROUP B:
Select two one-term courses from Table 2. Students planning a career in exporting are encouraged to choose MGT 723 as one of the electives.

3.3 PROFESSIONALLY RELATED ELECTIVES
TABLE 1

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
LAW: Business Law	LAW 122		1	3
MARKETING: Marketing I	MKT 100		1	3
CARRIBEAN STUDIES: Introduction to the Carribean	CRB 100		1	3
GEOGRAPHY: Geographical Issues in the Post-Industrial Age I	GEO 108		1	3
GEOGRAPHY: Geographical Issues in the Post-Industrial Age II	GEO 208		1	3
HISTORY: Asia: A Modern History 1898-1998	HST 113		1	3
HISTORY: A New Age: Asia and the West Since 1800	HST 225		1	3
POLITICS: Human Needs and Power: Comparing Nations I	POL 106		1	3
POLITICS: Human Needs and Power: Comparing Nations II	POL 206		1	3
POLITICS: Order and Disorder in World Politics	POL 208		1	3
SOCIOLOGY: Introduction to Social Analysis	SOC 104		1	3
QUANTITATIVE METHODS: Linear Algebra	QMS 522		1	3

TABLE 2

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
LAW: Legal Aspects of International Business	LAW 724		1	3
MANAGEMENT: International Trade	MGT 723		1	3
MARKETING: International Marketing	MKT 522		1	3
CARIBBEAN STUDIES: Cultural Traditions in the Caribbean	CRB 502	1	3	
ECONOMICS: Economics of Third World Countries	ECN 503	1	3	
ECONOMICS: European Economic Development	ECN 609		1	3
ECONOMICS The Economics of East Asia	ECN 802		1	3
GEOGRAPHY: Global Political Geography	GEO 520		1	3
GEOGRAPHY: Patterns of Culture I	GEO 720	1	3	
GEOGRAPHY: Global Environmental Issues	GEO 811		1	3
GEOGRAPHY: Patterns of Culture II	GEO 820		1	3
HISTORY: Themes in African History I	HST 533		1	3
HISTORY: Reform and Revolution: China 1900-1949	HST 555	1	3	
HISTORY: Themes in African History II	HST 633		1	3
HISTORY: Challenges to Order: Understanding and Instability	HST 732		1	3
POLITICS: Issues and Problems in Third World Politics	POL 540	1	3	
POLITICS: Technology and Globalization	POL 607		1	3
SOCIOLOGY: Sociology of the Global Economy	SOC XXX			13
SOCIOLOGY: Anatomy of Human Conflict	SOC 702			13
SOCIOLOGY: Social Change: International Perspectives	SOC 801		1	3
SOCIOLOGY: Issues in War and Peace	SOC 802		1	3

Please note that students cannot take more than one Economics course from this table.

LIBERAL STUDIES ELECTIVE GROUP A
(For Table A and Table B courses, see the Ryerson calendar)
TABLE A - LOWER LEVEL RESTRICTIONS:
The following restrictions apply to International Economics Students:

The following courses are not available for Liberal Studies credit: Economics, , CRB 100, GEO 108, GEO 208, HST 113, HST 225, POL 106, POL 206, POL 208, SOC 103.

TABLE B - UPPER LEVEL RESTRICTIONS:
The following restrictions apply to International Economics Students:

The following courses are not available for Liberal Studies credit: Economics, CRB 502, GEO 520, GEO 720, GEO 811, GEO 820, HST 533, HST 555, HST 633, HST 732, POL 540, POL 607, SOC 702, SOC 801, SOC 802.

APPENDIX: International Economics Curriculum Overview

CURRICULUM, REGULAR AND EXTENDED INTERNSHIP OPTIONS

FIRST SEMESTER **(Regular and Extended Internship Options)**

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ACCOUNTING: Introductory Financial Accounting	ACC 100	1	3	1
ECONOMICS: Introductory Microeconomics	ECN 104	1	3	
ECONOMICS: Evolution of the Global Economy I	ECN 120	1	3	

LIBERAL STUDIES ELECTIVE GROUP A:
One one-term course required from Table A

PROFESSIONALLY RELATED ELECTIVE GROUP B:
Select one one-term course from Table 1

SECOND SEMESTER **(Regular and Extended Internship Options)**

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ECONOMICS: Introductory Macroeconomics	ECN 204	1	3	
ECONOMICS: Evolution of the Global Economy II	ECN 220	1	3	
QUANTITATIVE METHODS: Calculus for Business	QMS 702	1	3	

LIBERAL STUDIES ELECTIVE GROUP A:
One one-term course required from Table A

PROFESSIONALLY RELATED ELECTIVE GROUP B:
Select one one-term course from Table 1

THIRD SEMESTER **(Regular and Extended Internship Options)**

	Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:					
ECONOMICS: Intermediate Macroeconomics I		ECN 301	1	3	
ECONOMICS: Information Resources for Economists		ECN 320	1	3	
ECONOMICS: Intermediate Microeconomics I		ECN 504	1	3	
ECONOMICS: Economic Systems in the New World Economy		ECN 508	1	3	
FRENCH: A French course or SPANISH: A Spanish course, level subject to placement *			1	3	

FOURTH SEMESTER **(Regular and Extended Internship Options)**

	Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:					
ECONOMICS: Statistics for Economics		ECN 420		1	3
ECONOMICS: Intermediate Macroeconomics II		ECN 600		1	3
ECONOMICS: Intermediate Microeconomics II		ECN 700		1	3
FINANCE: Managerial Finance		FIN 401		1	3
FRENCH: A French course or SPANISH: A Spanish course, level subject to placement *			1	3	

* Students may choose a language other than French or Spanish, subject to the approval of the program advisor who will issue a Letter of Permission to take the course at another university.

FIFTH SEMESTER (Regular and Extended Internship Options)

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ECONOMICS: Industrial Organization	ECN 501	1	3	
ECONOMICS: Econometrics	ECN 627	1	3	
ECONOMICS: International Economics	ECN 707	1	3	
FINANCE: Investment Analysis I	FIN 501	1	3	

LIBERAL STUDIES ELECTIVE GROUP A:
One one-term course required from Table B

SIXTH SEMESTER (Regular and Extended Internship Options)

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ECONOMICS: International Monetary Issues	ECN 606	1	3	
ECONOMICS: Economic Forecasting	ECN 702	1	3	
FINANCE: Investment Analysis II	FIN 601	1	3	
PHILOSOPHY: Beyond the Western Academic Tradition	PHL 621	1	3	

LIBERAL STUDIES ELECTIVE GROUP A:
One one-term course required from Table B

SEVENTH SEMESTER (Regular Option)

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ECONOMICS: Work Term I	WKT 100			2
ECONOMICS: Seminar course	ECN 720	1	3	
ECONOMICS: International Financial Markets	ECN 721	1	3	
HISTORY: Understanding International Relations 1945-1990	HST 500	1	3	

LIBERAL STUDIES ELECTIVE GROUP A:
One one-term course required from Table B

PROFESSIONALLY RELATED ELECTIVE GROUP B:
Select one one-term course from Table 2

EIGHTH SEMESTER (Regular Option)

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:				
ECONOMICS: Project	ECN 820	1	3	
ECONOMICS: Country Risk Analysis	ECN 821	1	3	

LIBERAL STUDIES ELECTIVE GROUP A:
One one-term course required from Table B

PROFESSIONALLY RELATED ELECTIVE GROUP B:
Select <u>two</u> one-term courses from Table 2. Students planning a career in exporting are encouraged to choose MGT 723 as one of the electives.

SEVENTH AND EIGHTH SEMESTERS (Extended Internship Option)

	Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:					
ECONOMICS: Work Term		WKT 077	4		2

NINTH SEMESTER (Extended Internship Option)

	Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:					
ECONOMICS: Seminar course		ECN 720	1	3	
ECONOMICS: International Financial Markets		ECN 721	1	3	
HISTORY: Understanding International Relations 1945-1990		HST 500	1	3	

LIBERAL STUDIES ELECTIVE GROUP A:
One one-term course required from Table B

PROFESSIONALLY RELATED ELECTIVE GROUP B:
Select one one-term course from Table 2

TENTH SEMESTER (Extended Internship Option)

	Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
REQUIRED:					
ECONOMICS: Project		ECN 820	1	3	
ECONOMICS: Country Risk Analysis		CN 821	1	3	

LIBERAL STUDIES ELECTIVE GROUP A:
One one-term course required from Table B

PROFESSIONALLY RELATED ELECTIVE GROUP B:
Select <u>two</u> one-term courses from Table 2. Students planning a career in exporting are encouraged to choose MGT 723 as one of the electives.

3.3 PROFESSIONALLY RELATED ELECTIVES
TABLE 1

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
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CARRIBEAN STUDIES: Introduction to the Carribean	CRB 100		1	3
GEOGRAPHY: Geographical Issues in the Post-Industrial Age I	GEO 108		1	3
GEOGRAPHY: Geographical Issues in the Post-Industrial Age II	GEO 208		1	3
HISTORY: Asia: A Modern History 1898-1998	HST 113		1	3
HISTORY: A New Age: Asia and the West Since 1800	HST 225		1	3
POLITICS: Human Needs and Power: Comparing Nations I	POL 106		1	3
POLITICS: Human Needs and Power: Comparing Nations II	POL 206		1	3
POLITICS: Order and Disorder in World Politics	POL 208		1	3
SOCIOLOGY: Introduction to Social Analysis	SOC 104		1	3
QUANTITATIVE METHODS: Linear Algebra	QMS 522		1	3

TABLE 2

Course Title	*Course Number*	*Duration in Terms*	*Lecture*	*Lab*
LAW: Legal Aspects of International Business	LAW 724		1	3
MANAGEMENT: International Trade	MGT 723		1	3
MARKETING: International Marketing	MKT 522		1	3
CARIBBEAN STUDIES: Cultural Traditions in the Caribbean	CRB 502		1	3
ECONOMICS: Economics of Third World Countries	ECN 503		1	3
ECONOMICS: European Economic Development	ECN 609		1	3
ECONOMICS The Economics of East Asia	ECN 802		1	3
GEOGRAPHY: Global Political Geography	GEO 520		1	3
GEOGRAPHY: Patterns of Culture I	GEO 720		1	3
GEOGRAPHY: Global Environmental Issues	GEO 811		1	3
GEOGRAPHY: Patterns of Culture II	GEO 820			13
HISTORY: Themes in African History I	HST 533		1	3
HISTORY: Reform and Revolution: China 1900-1949	HST 555		1	3
HISTORY: Themes in African History II	HST 633		1	3
HISTORY: Challenges to Order: Understanding and Instability	HST 732		1	3
POLITICS: Issues and Problems in Third World Politics	POL 540		1	3
POLITICS: Technology and Globalization	POL 607		1	3
SOCIOLOGY: Sociology of the Global Economy	SOC XXX			13
SOCIOLOGY: Anatomy of Human Conflict	SOC 702			13
SOCIOLOGY: Social Change: International Perspectives	SOC 801		1	3
SOCIOLOGY: Issues in War and Peace	SOC 802		1	3

Please note that students cannot take more than one Economics course from this table.

LIBERAL STUDIES ELECTIVE GROUP A
(For Table A and Table B courses, see the Ryerson calendar)
TABLE A - LOWER LEVEL RESTRICTIONS:
The following restrictions apply to International Economics Students:

The following courses are not available for Liberal Studies credit: Economics, , CRB 100, GEO 108, GEO 208, HST 113, HST 225, POL 106, POL 206, POL 208, SOC 103.

TABLE B - UPPER LEVEL RESTRICTIONS:
The following restrictions apply to International Economics Students:

The following courses are not available for Liberal Studies credit: Economics, CRB 502, GEO 520, GEO 720, GEO 811, GEO 820, HST 533, HST 555, HST 633, HST 732, POL 540, POL 607, SOC 702, SOC 801, SOC 802.

COMMITTEE ON INFORMATION TECHNOLOGY

Please find attached a Draft Policy On Information Technology Access And Acceptable Use for the approval of the Academic Council.

Murray Pomerance (Chair)

MEMBERS

Murray Pomerance (Chair)
Keith Alnwick
Liping Fang
Linda Grayson
John Hicks
Renee Lemieux
Dennis Mock
Erin George
Bob Jackson
Naushad Jamani
Jim Tam

For Academic Council
October 19, 1999

COMMITTEE ON INFORMATION TECHNOLOGY

DRAFT POLICY ON INFORMATION TECHNOLOGY ACCESS AND ACCEPTABLE USE

(1) BASIC PRINCIPLES

In a vital university, the wide range of information technology becomes increasingly central to academic work. It is appropriate that the framing of a policy on acceptable use, and the structuring of guidelines for investigating allegations of abuse, should rest with Academic Council, since in a climate of widespread academic use of information technology, any limitations on access to information technology can have the capacity to most seriously impair academic work. In addition, the clear and proper determination as to whether or not abuse has occurred, and whether or not access should be limited in any given case depends heavily upon academic standards, academic methods, and academic knowledge.

The aim of this policy is to encourage the use of information technology while protecting Ryerson information resources and Ryerson's reputation in the external community. This policy will operate within the broader context of the Ryerson Student Code of Conduct (Academic and Non-Academic), the Ryerson Discrimination and Harassment Prevention Policy, and other applicable Academic Council policies. The acceptable use of Ryerson's information technology resources is in support of research, instructional, administrative, and other intellectual pursuits consistent with academic freedom and with Ryerson's aims and objectives. Use for personal purposes is permitted to encourage students and faculty to explore information technology and to assess the potential use of computing and networking in pursuit of knowledge or improved efficiency.

This policy, which applies to all members of the Ryerson Community, is framed upon these basic principles:

1. Computing is of fundamental importance at Ryerson, especially as it impacts and affects academic endeavour carried on by any member of the Community.
2. Any abuse of Ryerson's computing resources should be subject to discipline in a process reflecting the most serious regard for procedural fairness and in strict accord with a policy governed by Academic Council.
3. It is exceptionally important to provide safeguards against the misuse of IT resources while at the same time supporting and maintaining a community environment free from constraint.

(2) PRIVACY

While confidentiality is very important in a University community in general, special principles of confidentiality apply to academic work. A respect for intellectual labour and creativity is vital to academic discourse and enterprise. This principle applies to works of all authors and publishers in all media, as well as to working files, notes, correspondence and documents of scholars doing academic, community and professional work. This principle encompasses respect for the right to privacy, and for the right to determine form, manner, and terms of publication, distribution, and access to private materials. Because electronic information is volatile and easily reproduced, respect for the work and personal expression of others is especially critical in computer environments.

Violations of authorial integrity, including plagiarism, invasion of privacy, unauthorized access, and trade secret and copyright violations, are ground for sanctions against members of the higher education community. The principle of information technology privacy must be accorded the highest priority, in order that the University's need to protect itself from liability not result in the creation of a panopticon, i.e. (which would make academic work difficult if not impossible).

Computing resources at Ryerson should be used with appropriate care by members of the Community. Users of information technology at Ryerson have a right to the protection of the privacy of their data; while at the same time they have the responsibility to protect the privacy of others' data. Ryerson system administrators will observe the rights of all users for privacy and for freedom of information. The contents of mail logs, data files, programs that users have stored in their disk area, or any other record of IT usage, will not be examined without authorization of the user except in the case of :

(a) the investigation of an allegation of information technology misconduct;
(b) medically verifiable physical incapacitation;
(c) precipitous resignation;
(d) termination.

Should an occasion arise where computer or network abuse has been alleged, the University reserves the right to examine passwords, accounting information, files, programs, printouts, tapes or any other computer related material belonging to the users of IT facilities at Ryerson. An allegation of IT misconduct is a signed written statement from a Ryerson user, or from the administrator of an internal or external network, or from the Office of Discrimination and Harassment Prevention Services, naming an individual as a violator of one or more of the clauses in Section (3) of this policy. When there has been an allegation of IT misconduct made, the named user will be notified in writing of actions taken, the bases for these actions, and the findings of the investigation.

(3) UNACCEPTABLE USES OF RYERSON INFORMATION TECHNOLOGY RESOURCES

(a) Lending, selling, renting or giving one's login name or account password to others.
(b) Aiding or abetting unauthorized use of Ryerson's computing and networking facilities.
(c) Accessing or attempting to access another user's account without specific authorization from that user, for one's own purposes or for those of any third party.
(d) Attempting to obtain unauthorized information on passwords or data belonging to other users.
(e) Intentionally developing or using any unauthorized mechanism to avoid charges levied by the University for computing services.
(f) Making unauthorized copies of proprietary software, or offering unauthorized copies of proprietary software to others.
(g) Copying someone else's files or programs, or examining such information unless authorized by the owner.
(h) Attempting to circumvent computer security methods or operating systems, including security guidelines for campus computer laboratories.
(i) Using the University's computer accounts for unauthorized private commercial purposes.
(j) Intercepting or examining the content of messages or files in transit on a network.
(k) Intentionally interfering with the work of other users of a network or with their host systems, within Ryerson or on the Internet while logged on through the Ryerson network; seriously damaging the Ryerson network using any procedure; or engaging in any uses that result in the loss of another user's files or system.
(l) Uses that are found to be malicious or harmful.
(m) Any uses that violate any other Ryerson Polytechnic University policy or code.
(n) Making an allegation of Information Technology abuse that is found to be frivolous.

(4) PROCEDURE FOR EVALUATING ALLEGATIONS OF STUDENT COMPUTING MISCONDUCT

A suitable procedure for investigating and evaluating allegations of IT misconduct, and a list of possible sanctions for those found guilty of misconduct, will be created by a subcommittee of the Information Technology Committee of Academic Council before April 30, 2000, for immediate implementation at that time. In the interim, allegations will be handled through either the Student Code of Conduct or the relevant contractual or employment arrangement.

(5) IMPLEMENTATION

This policy, effective upon Academic Council approval, will replace the Ryerson Student Computing Guidelines. This policy will be published on the Ryerson web site, linked from the main page, and will be circulated in writing to all academic and administrative departments, student governments, and union offices.

(c:\b22\infotech\mins19oc)

Report of the Council for the School of Graduate Studies (F99/1)

Background:

The proposal for the M.A.Sc./ M.Eng Program in Electrical and Computer Engineering in the Faculty of Engineering and Applied Science and the Joint Ph.D. Program in Electrical and Computer Engineering (with DalTech Dalhousie University) has been reviewed by the Policy and Planning Committee of the School of Graduate Studies and has undergone a review by an external faculty expert. It has satisfied the criteria for graduate programming as outlined by the Ontario Council for Graduate Studies. The program will meet an identified niche in the specific areas of computer systems and applications and power electronics for the doctoral and master's degree programs and computer networks (master's degree only). The scholarly achievements of the faculty and their research grants will provide an adequate base to fund the graduate students and the facilities will support their graduate work. The doctoral program will benefit from the additional experience of the faculty at Daltech. Volume 1 of the OCGS Brief (attached) provides a comprehensive presentation of the proposal. Volume 2 contains the curriculum vitae of the faculty and is available in the Office of the Associate Vice President, Academic.

Motion:

Therefore the Council of the School of Graduate Studies recommends that Academic Council approve the proposal for the M.A.Sc./ M.Eng Program in Electrical and Computer Engineering in the Faculty of Engineering and Applied Science and the Joint Ph.D. Program in Electrical and Computer Engineering (with DalTech Dalhousie University) for submission to the Ontario Council for Graduate Studies for Standard Appraisal.

OCGS STANDARD APPRAISAL BRIEF

PROPOSED M.A.Sc. / M.ENG. PROGRAM IN ELECTRICAL AND COMPUTER ENGINEERING

FACULTY OF ENGINEERING AND APPLIED SCIENCE
RYERSON POLYTECHNIC UNIVERSITY

AND

PROPOSED JOINT M.ENG. (COMPUTER NETWORKS) AND PH.D. PROGRAMS IN ELECTRICAL AND COMPUTER ENGINEERING

FACULTY OF ENGINEERING AND APPLIED SCIENCE
RYERSON POLYTECHNIC UNIVERSITY
AND
DALTECH/DALHOUSIE UNIVERSITY

VOLUME I: Description of the Program

TABLE OF CONTENTS

I. INTRODUCTION

1.1 Background

The great growth surge in the North American economy that began in the mid-1980s and appears to be continuing unabated into the twenty-first century is in large part due to increases in productivity associated with developments in electrical technologies. These developments involve a resurgence of interest in "traditional" aspects of engineering, such as power systems, which is associated with motors and generators, transmission lines and power plants; and "newer" aspects associated with electronics and computer engineering that deal basically with communications and digital and analogue systems technologies[1]. Integral to all aspects of these technologies is software engineering. In consequence, the proposed masters and doctoral programs that are described in this brief embrace these interrelated aspects of modern electrical and computer engineering which draw from the fundamentals of the physical sciences and mathematics.

The dramatic growth of the "new" is a perceptual part of every persons environment – so much so that it is difficult to believe that electrical engineering as a profession is barely one hundred years old, and electronics as a science is only about seventy-five years old. During the past two decades microprocessor component densities have doubled every eighteen months, while costs have tumbled[2]. The result of escalating power and speed accompanied by ever lower costs is the application of microprocessors to practically everything — particularly evident with desktop computers (now multi-media ready with powerful CD-ROM drives) for households and businesses of all sizes, and the communications industries (witness the hold of the cell-phone on society). Practically every aspect of manufacturing has become high-tech with widespread use of robotics and CAD-CAM technologies in industries ranging from automobile production to printing and publishing, and pulp and paper. Equally as pervasive has been the interlinking of computers via the internet (giving rise to e-commerce), and computerized visual and sound effects in television and cinema.

The resurgence of interest in the traditional aspects of electrical engineering is in large part associated with this rapid growth in electronics and computer engineering. The revolutionising of telecommunications caused by the new technologies is leading to widespread deregulation in the telecommunications industry, which, in turn, has meant that electrical engineers are having to grapple with the power needs of the more fragmented deregulated systems. Deregulation in the telecommunications industry is also fostering deregulation in the power industry – again leading to a re-thinking of system designs. Furthermore, the incorporation of ideas related to sustainable development into the fabric of society has led to the rapid expansion of interest in such matters as fuel cell technology for electric cars, efficient systems for wind-generated power, and new technologies in public transit (for example, magnetic levitation).

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1 "Overview: electrical engineering and computer engineering" www.ieee.org

2 Tucker, A.B. ed. (1996) *The Computer Science and Engineering Handbook* CRC Press.

These rapidly growing and changing aspects of electrical engineering and computer technology have placed extraordinary demands on graduate education and research in the discipline. Ryerson has offered undergraduate training in electrical and computer engineering since 1985, and in 1999 graduated 80 students with bachelor degrees. The vast majority of the undergraduates at Ryerson reside in the Greater Toronto Area, and collectively they reflect the amazingly diverse multi-cultural population that forms this modern metropolis. Given the location of the campus in the heart of the downtown at the nexus of the region's public transit system, the University accepts that it has a special role to play in serving the needs of this extraordinarily vibrant multiplicity of people. Only two universities[3] within the rapidly growing region (which in 1999 had approximately 5 million people, increasing at a rate of about 1.7 per cent per annum) provide opportunities for professionally-oriented education in electrical and computer engineering. The University is, therefore, pleased that it has now developed its faculty and infrastructure resources to a level sufficient to propose expansion into graduate work in the discipline – thus permitting it to realize more fully its applied educational mandate.

1.2 Electrical and Computer Engineering in Context

The Ryerson proposal is for M.Eng./M.A.Sc./Ph.D. programs in Electrical and Computer Engineering. Table 1.1 shows the number of graduate programs in electrical engineering[4] and computer science in the Province of Ontario. Computer science is included for contextual purposes because computer profession specialties represent a continuum[5]. At one pole is computer science, which is primarily concerned with theory, design, and implementation of software – the product being a computer program. At the other pole is computer engineering, primarily concerned with firmware (the microcode that controls processors) and hardware (the processors themselves as well as entire computers). It is difficult to draw a line between the two as many practitioners and researchers function in both areas. The proposed program at Ryerson is, however, situated at the computer engineering end of the continuum.

There are six graduate programs in Electrical and Computer Engineering in Ontario (Table 1.1). One of the largest is the M.A.Sc./M.Eng./Ph.D. in Electrical and Computer Engineering at the University of Toronto, which defines seven fields for graduate studies: communications; computers; electromagnetics; electronics; photonics; power devices and systems; and systems control. The Ottawa/Carleton Institute for Electrical and Computer

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3 The University of Toronto is the other. Interestingly, the Montreal region (pop. 3.7 million) has five engineering schools with graduate programs; and Vancouver/Victoria (pop. 2 million) has three. On this basis, an argument could be made that the GTA is underserved with engineering programs at the professional level, and the graduate level.

4 It should be noted that in Engineering the academic degree awarded at the completion of the undergraduate professional program is the B.Eng. or B.A.Sc. (leading, following professional exams and four years industrial experience, to the P.Eng.). Graduate programs in engineering departments are research oriented programs which admit students with engineering and other science degrees.

5 "Overview: Computer Engineering and Computer Science" www.ieee.org

Table 1.1 University Size and Graduate Enrolments* in Electrical Engineering and Computer Science Departments in Ontario, 1996/97

University	Total Enrolment **		Electrical Engineering		Computer/Info. Sc.	
	University	Engineering	Master's	Doctoral	Master's	Doctoral
Brock	10,800					
Carleton	16,000	1,936			61	
Carleton/Ottawa			224	98	107	35
Guelph	13,000	640	Eng. Sc.	Eng. Sc.	37	
Lakehead	6,800	437				
Laurentian	6,800	187				
McMaster	17,000	1,959	59	49	12	
Nipissing	3,000					
Ottawa	23,000	1,439			44	
Queen's	17,000	2,176	66	41	54	17
Ryerson	21,200	1,951				
Toronto	52,000	3,786	180	126	59	85
Trent	5,100					
Waterloo	20,500	3,680	67	65	96	35
Western	26,000	1,332	Eng. Sc.	Eng. Sc.	32	20
Wilfrid Laurier	7,700					
Windsor	13,800	927	24	15	39	
York	36,600				24	1 (new)

- All enrolment data includes both full-time and part-time students. At the graduate level part-time registrations include students in part-time programs and those completing requirements for degrees on a part-time basis (usually while employed).

** Undergraduate plus graduate students, full-time and part-time.

Sources: Graduate data from OCGS (1998) *Graduate Macroindicator Data, 1996/97: Ontario* Toronto: Council of Ontario Universities. Engineering data from CCPE (1999) *Canadian Engineers for Tomorrow: Trends in Engineering Enrolment and Degrees Awarded, 1993-1997* Canadian Council of Professional Engineers.

Engineering provides a joint master's/doctoral graduate program over the same range of topics,

though it defines its fields somewhat differently. The M.A.Sc./Ph.D. program in Electrical and Computer Engineering at the University of Windsor offers research and graduate studies in two fields: power systems, and systems and signal processing. Two universities (Western and Guelph) offer graduate programs in Engineering Science. The program at Western includes an electrical engineering field. Since 1994, fourteen of the graduate students who enrolled in the electrical engineering field at Western have been either fully supervised or co-supervised by Ryerson faculty and have undertaken their research utilizing Ryerson facilities.

Fig 1.1 Master's Enrolment: Ontario

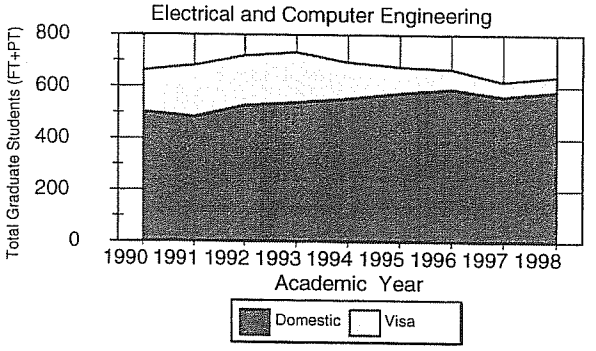
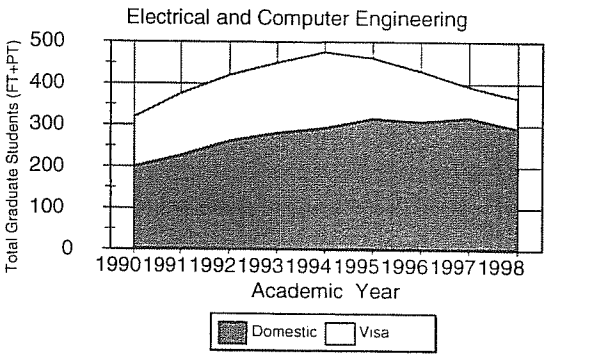


Fig 1.2 Doctoral Enrolment: Ontario



Total enrolments in master's and doctoral programs in electrical and computer engineering in universities in Ontario are large and, despite the decline in visa student representation, are quite healthy (Figures 1.1 and 1.2). Given the decline in enrolment of visa students after 1993 following the introduction of large foreign student tuition fees, master's enrolment (Fig. 1.1) has been remarkably robust with the enrolment of domestic students increasing 16% during the decade. The proposed master's programs at Ryerson are directed toward increasing the opportunities for full-time and part-time domestic students in the Toronto region who do not wish to incur the costs of out-of-region education.

The decline in foreign student enrolment has had a more significant impact at the doctoral level (Fig. 1.2). In 1994 foreign students comprised nearly 40% of graduate enrolment in electrical and computer engineering. By 1998 this share had halved. On the other hand, the enrolment of domestic students in doctoral programs increased fairly steadily throughout the decade, with a slight downturn recorded in 1997/98. Domestic doctoral enrolments are influenced significantly by employment opportunities, and with a galloping high-tech economy in the United States there are difficulties in maintaining doctoral enrolment levels. Nevertheless, in 1998 domestic doctoral enrolments were almost 50% greater than they were in 1990. Again, Ryerson believes that it is well located in the GTA to attract domestic graduate students to doctoral work in electrical and computer engineering, and thus contribute significantly to Provincial (and National) output of highly qualified persons in this discipline.

The demand from domestic students for graduate studies in Electrical and Computer Engineering is being stimulated by the Access to Opportunities Program (ATOP) announced by the Ontario Provincial government in May 1998. Funds provided from this program, which are additional to the operating and capital grants allocated to universities within the Ontario system, are directed toward increasing enrolment at the undergraduate and graduate levels in designated

computer and high technology fields. Ryerson is well positioned with respect to its location and range of applied science and engineering programs to respond to the societal need addressed by the program. The establishment of new industry-linked opportunities at the graduate level in electrical and computer engineering, along with expansion of undergraduate enrolment in existing programs, is clearly central to this response.

1.3 The New Programs: Objectives

1.3.1 The doctoral program is to be offered "jointly" by the Department of Electrical and Computer Engineering and School of Computer Science at Ryerson and the Department of Electrical and Computer Engineering at DalTech/Dalhousie University[6]. Together, the departments have resources and doctoral supervision experience sufficient to support quality research in the selected fields. Furthermore, DalTech and Ryerson are comfortable partners — they share a tradition of applied education. As with other joint programs within the Province (such as the Ottawa/Carleton Institute for Electrical Engineering), students will have access to faculty and research facilities in the two institutions while registered at either institution. The doctoral program is designed (Section IV) for possible completion in three calendar years, or nine terms.

The Department of Electrical and Computer Engineering and School of Computer Science (with additional support from the Mathematics and Physics faculty) at Ryerson and the Department of Electrical and Computer Engineering at DalTech/Dalhousie University will also offer the M.Eng. program focusing on Computer Networks "jointly" under the Agreement with DalTech/Dalhousie University. The curriculum for this program was originally developed by DalTech/Dalhousie, as the *M.Eng. Program in Internetworking*, in collaboration with CISCO Systems Canada Ltd.

1.3.2 Two programs are to be offered on a "stand-alone" basis at Ryerson, utilizing the infrastructure, faculty, and facilities of the Department of Electrical and Computer Engineering and the School of Computer Science, and administered by the Faculty of Engineering and Applied Science under the auspices of the School Graduate Studies:

1.3.1.1 The M.Eng. program is a course-work program with a research project, and, with courses scheduled for the evening time-slots, it is envisaged that it will be attractive to part-time students. The curriculum (Section IV) is structured to facilitate possible completion in two calendar years, or six academic terms.

1.3.1.2 The M.A.Sc. program involves less course-work than the M.Eng. program, but includes a master's thesis. The curriculum (Section IV) is structured to facilitate possible completion in one calendar year of full-time study and research, or three academic terms.

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6 Relevant documents relating to the dated original "Memorandum of Agreement" between Ryerson and DalTech, governing their collaboration in postgraduate programming, are included in Appendix I. This agreement is currently being revised to reflect the present state of the proposal discussed in this brief. It is expected that the new modified agreement will be modelled after the Ottawa/Carlton joint postgraduate collaboration.

1.3.3 The objectives of the proposed Ryerson/DalTech joint M.Eng. (Computer Networks) and doctoral programs in Electrical and Computer Engineering, therefore, are to:

(i) provide opportunities for advanced study in science and mathematics as applied to problems of a technological nature.
(ii) undertake technology-oriented fundamental research utilizing state-of-the-art facilities and methodologies.
(iii) provide through the M.Eng. (Computer Networks) program opportunities for professional development.
(iv) add to society's store of knowledge, and, through the application of knowledge, level of innovation as well as the improvement of existing products, systems, and/or services.
(v) enhance university/industry interaction through such means as joint research projects, consulting, and technology transfer.
(vi) add to the number of highly qualified persons who can move into leadership roles in industry, and teaching/research positions in post-secondary education.
(vii) produce persons who can enhance the innovation capacity of the country, and hence take leadership roles in National and Provincial economic, environmental, and social development.

1.3.4 The objectives of the proposed master's programs in Electrical and Computer Engineering are to:

(i) provide, through the M.A.Sc. program, opportunities for involvement in a fairly intense technology and science-oriented program of graduate study and research.
(ii) provide, through the M.Eng. program, opportunities for further professional development, and the design and completion of a research project.
(iii) contribute to the advancement of knowledge, and, through the application of knowledge, to the development or improvement of technical products, systems, and/or services.
(iv) foster university/industry interaction through joint projects, in-service graduate education, and needs-driven applied research thesis activities.
(v) add to the number of highly qualified persons who can, through such means as technology transfer, enhance National and Provincial economic, environmental, and social development.

1.4 The New Programs: Fields

While the master's programs will focus on **three** fields (computer systems and applications, power electronics, and computer networks), the doctoral program will focus on **two** (computer systems and applications and power electronics).

1.4.1 Computer Systems and Applications (master's and doctoral field).

Embedded computers provide functionality specific to their applications. Each year more

than three billion processors are sold and incorporated into computer systems and applications – a market which surpasses that for desktop computers *per se.* Due to the competitive nature of the embedded computer/controller sector, the time-to-market cycle (and product life cycle) is extremely short. Thus, research and product development in the sector is intense, and it is easy to fall behind the leading edge. Ryerson and DalTech have considerable faculty resources and facilities, supported with external grants, devoted to research in the development of efficient embedded system design tools and methodologies. Other researchers employ these tools/methodologies for real-time testing of control/ communication algorithms and their industrial applications.

1.4.2 Power Electronics (master's and doctoral field).

Power electronics represent a major, mature, and fundamental field in electrical engineering. The field is experiencing resurgence due to renewed interest in energy efficiency and system reliability. Current research activities at Ryerson and DalTech includes: DSP based control of electric drives, modelling of high-power switching devices, active power filtering, power convertor and invertor systems, and power supply design. Both departments have considerable faculty resources and facilities, supported with external grants, devoted to power electronics and power systems (see Section 1.5.1).

1.4.3 Computer Networks (master's field only).

This field focuses on the theoretical foundations and practical considerations concerning computer networks and the technology of the internet. Specifically, these considerations relate to network architecture, digital communication, internet protocols, and ATM traffic management and system design. Ryerson has significant faculty research strength, supported with external grants, in this field. As has been mentioned previously Ryerson will be implementing at the M.Eng. level a curriculum in Computer Networks developed by DalTech/Dalhousie in conjunction with CISCO Systems Canada Ltd.

1.5 Participants in the Programs

Ryerson Polytechnic University and DalTech/Dalhousie University bring exceptional complementary experience, together with a shared tradition of career-oriented applied educational philosophy to the joint partnership and collaboration in the proposed postgraduate programming. The two universities have been comfortable partners in many international development collaboration projects. This strategic partnership adds significant advantages to the proposed postgraduate programs. Many of the specific areas of specialization/research focii are not only matched, but are also complementary, as is usually the case in specialized postgraduate research. Joint graduate supervision in the Ph.D. program and team research collaboration opportunities will not only reduce the cost of research, but will also enhance the experiential development of the young researchers, and focus the research direction. Team research will similarly enhance the rate of success in securing more funding from governments, corporations and granting agencies. Through collaboration in curriculum planning and postgraduate course offerings, on both university campuses (and also using multimedia video conferencing facilities)

enhanced opportunities will be available to the graduate students in order to study more relevant advanced/focused specialization material without resorting to curriculum substitution, common in smaller/limited graduate programs. This, in turn, will result in enhanced program efficiency and higher rate of degree completion. The well-equipped and established engineering research laboratory facilities at DalTech will also help some of the graduate students in conducting their specialized research and experimentation, without the need for duplication of very expensive research resources and infrastructure.

1.5.1 The Department of Electrical and Computer Engineering at Ryerson.

The Department began offering degree programs in 1985 and now includes 32 faculty, 18 of whom have doctoral degrees. It is the latter group that provides the core faculty for the graduate program. The Department currently offers an undergraduate program leading to a Bachelor of Engineering (Electrical Engineering) degree. Undergraduate enrolment in 1997/98, prior to ATOP associated expansion, stood at 560. This number is expected to increase to over 700 students by 2001/2, with graduations about 130 per year. In consequence, the number of faculty members is planned to increase to about 38 by 2001/2, and each new appointment will be expected to hold a doctorate and be active in research. Among a number of facilities, the Department houses a Power Electronics Research Laboratory which is supported by NSERC and industrial grants. This is a high quality facility that allows for research in a wide variety of topics such as electric motor drives, solid state converters, uninterruptible power supplies, power system protection, and electronic ballasts.

1.5.2 The School of Computer Science

The School is part of the Department of Mathematics, Physics, and Computer Science in the Faculty of Engineering and Applied Science at Ryerson. It currently offers regular and co-op undergraduate programs leading to a B.Sc. in Applied Computer Science. The School currently has 18 faculty, twelve of whom are available and qualified to contribute to instruction and research supervision in the computer systems and applications and computer Networks fields. Undergraduate enrolment in 1997/98, prior to ATOP associated expansion, stood at 500. This number is expected to increase to 700 in 2002/3, with graduations about 130 per year. In consequence, the number of faculty is expected to increase to about 25 by 2002/3, and each new appointment will be expected to hold a doctorate and be active in research.

1.5.3 The Department of Electrical and Computer Engineering at DalTech

The Department is responsible for a number of undergraduate and graduate programs in electrical and computer engineering that were among those transferred on April 1, 1997 from the former Technical University of Nova Scotia (TUNS) and Dalhousie University to DalTech, a new College of Applied Science and Technology within Dalhousie University[7]. The Department, which offers programs leading to a B.Eng. and

[7] DalTech offers degrees in architecture, engineering, food science, and computer science. The engineering programs are in agricultural, chemical, civil, electrical, industrial, mechanical, and mining and

M.A.Sc./M.Eng./Ph.D. in Electrical and Computer Engineering, has nine faculty all of whom hold doctoral degrees. Undergraduate enrolment in 1997/8 was 130, and graduate enrolment was 46. It is the lead department in a new M.Eng. program in Computer Networks, which incorporates faculty from the Departments of Computer Science, Industrial Engineering, and Engineering Mathematics at DalTech.

1.6 Schedule for Development of the Program

While recognizing that a time-line for a process involving both internal and external review may be difficult to predict, nevertheless the following seems reasonable.

Summer	1999	Internal review
Fall	1999	University approvals for submission of documentation to OCGS
Winter	2000	OCGS appraisal
Fall	2000	Start of master's and doctoral programs

DalTech, with its existing graduate programs in Electrical and Computer Engineering, already has the supervisory practices, courses, and administrative procedures for the proposed joint doctoral program. The Faculty of Engineering and Applied Science at Ryerson is committed to rapid implementation of the program following approval by OCGS.

1.7 Innovative Features of the Programs

The innovative features of the proposed M.A.Sc./M.Eng. programs in Electrical and Computer Engineering at Ryerson, and the M.Eng. (Computer Networks)/Ph.D. programs in Electrical and Computer Engineering to be offered jointly by Ryerson and DalTech/Dalhousie, include the following:

(i) The programs focus on fields - computer systems and applications, computer networks, and power electronics – that are vital to the viability of the national economy.

(ii) The Ph.D. program, focusing specifically on computer systems and applications and power electronics, would be the first formal joint doctoral program in the country involving a partnership between institutions in two different provinces.

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metallurgical engineering. DalTech offers graduate work in all areas as well as in naval architecture and marine engineering, engineering mathematics, urban and rural planning and water resources. Most programs lead to a Ph.D. degree. DalTech's mission is to provide high quality education, research and community/industry collaboration in architecture, computer science and engineering. Typically, it undertook $6.5 million of research in 1993/94. Of that amount, $2.1 million was research funded by the granting councils; $1.1 million was international development contracts; and the remaining $3.3 million was contract and grant support research which was supportive of business and industry, largely from Nova Scotia. DalTech research is carried out both through the various departments in engineering, architecture and computer science and through a series of research centers established to service specific industrial needs. Over $2.6 million worth of research activities were carried out through the research centres. In addition, DalTech is a member of the Canadian Technology Network (CTN).

(iii) The masters programs are designed to be completed on a full-time and part-time basis. The availability of a formally constructed part-time option for persons in the work-force is extremely important due to the rapid rate of change in the discipline.

(iv) The programs are designed to be state-of-the-art and future-oriented, combining courses, laboratory work, seminar discussions, and applied research to generate an intellectual environment that is problem solving and industry related.

(v) Given the location of Ryerson in the business core of the Greater Toronto Area, the master's and doctoral programs located at the University will provide uniquely accessible opportunities for persons in a region in which graduate education based in engineering is currently available in only one institution.

II. THE FACULTY

This overview of the Faculty resources available for the proposed postgraduate program is presented in the context of the three fields outlined in Section 1.4.

2.1 Participating Faculty Members (Core Faculty)

Table 2.1 provides the listing of the participating core faculty members who are expected to be involved in thesis supervision, the delivery of the graduate courses and seminars, and in graduate thesis examination committees. The field designation (1, 2, or 3) refers to the fields listed in Section 1.4 – (1) computer systems and applications (CS), (2) power electronics (PE), and (3) computer networks (CN). Faculty members from DalTech are listed under Category 3, since they will continue to be involved with the ongoing graduate programs, based and offered at Dalhousie University, in addition to being core faculty members of the proposed joint doctoral graduate program. The CVs of all of the faculty members listed in Table 2.1 are provided in Volume II.

The faculty members, individually and as a group, in each of the fields specified, possess extensive research experience exhibited by their publication records in peer-reviewed journals and conferences. Such scholarly achievements will contribute effectively to the discovery and dissemination of new knowledge and to the development of relevant technological applications. Over the next seven years, it is expected that the **faculty resources** available at Ryerson for the graduate programs **will increase from 30 to 45**. The increased faculty members' resources are due to the replacement of pending retirements of faculty members who are not currently included in Table 2.1, and new positions to be funded consequent to the ATOP initiative. It is also expected that the number of faculty available for the doctoral program from DalTech (Category 3) will increase as the proposed postgraduate program is being implemented.

Though it may appear (Fig. 2.1) that the Ryerson/DalTech doctoral program is "thin on the ground" in the power electronics field with respect to number of faculty, this is not really the case. The power systems field is a mature field in electrical engineering, and is defined tightly in terms of its knowledge base. The number of faculty, therefore, that are required to cover power systems is considerably less than that required to cover computer systems and applications which is a rapidly developing area of research with many trails.

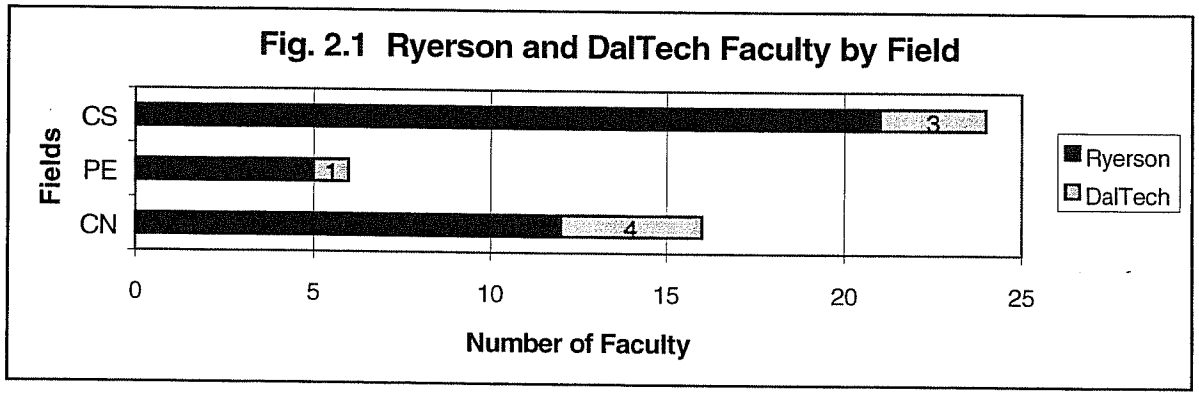


Table 2.1 Faculty Members by Field

Faculty Name and Rank	M/F	Retirement Date	Home Unit	Supervisory Privileges	Specialization Fields		
					1	2	3
Category 1							
Auda, G.	M		ECE., Ryerson	Full (*)	X		
Chen, Y.C.	M		"	Full	X		
Cheung, R.	M		"	Full		X	
Danziger, P.H.	M		MPCS, Ryerson	Master's			X
Fairgrieve, T.F.	M		"	Master's			X
Ferrando, S.	M		"	Master's			X
Ferworn, A.	M		"	Master's	X		X
Filip, A.	F		"	Master's	X		
Hinton, H.	F		ECE, Ryerson	Full	X		X
Hussein, A.	M		"	Full	X	X	
Istepanian, R.	M		"	Full (*)	X	X	
Kassam, M.	M		"	Master's (*)	X		
Kennedy, D.	F		"	Master's		X	
Kirischian, L.	M		"	Master's	X		
Kolasa, L.A.	M		MPCS, Ryerson	Master's	X		
Kolios, M.	M		"	Master's	X		
Krishnan, S.	M		ECE, Ryerson	Master's (*)	X		
Ma, N.W.	M		"	Full			X
Mason, D.	M		MPCS, Ryerson	Master's	X		
McInerney, T.J.	M		"	Master's	X		
Mekhiel, N.	M		ECE, Ryerson		X		
Ord, G.	M		MPCS, Ryerson	Master's			X
Sadeghian, A.	M		"	Master's (*)	X		X
Santos, M.	M		"	Master's (*)	X		
Woit, D.	F		"	Master's	X		X
Wu, B.	M		ECE, Ryerson	Full		X	
Yuan, F.	M		"	Master's (*)	X		
Zarnett, G.D.	M		MPCS, Ryerson				X
Zeytinoglu, M.	M		ECE, Ryerson	Full	X		X
Zhang, K.	M		"	Full	X		X
Category 1							
Cada, M.	M		ECE, DalTech	Full	X		
Chen, Z.	M		"	Full	X		
Dupuis, D.	F		Engg. Math., DalTech	Full			X
Fenton, G.A.	M		"	Full			X
Hughes, F.	M		ECE, DalTech	Full			X
Ilow, J.	M		"	Full	X		
Little, T.	M		"	Master's		X	
Slonim, J.	M		Comp Sci, DalTech	Full			X

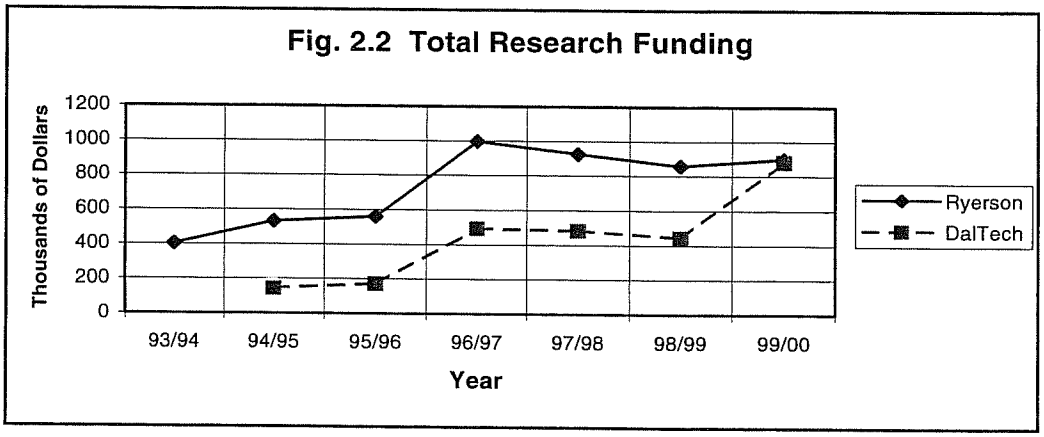
ECE: Department of Electrical and Computer Engineering
MPCS: Department of Mathematics, Physics and Computer Science
(*) Application for membership to the School of Graduate Studies is in progress.

2.2 Operating Research Funding of Core Faculty

Information on the research funding associated with the core faculty members of the proposed programs has been compiled carefully. However, some of the funding information available for the DalTech faculty members for the year 1993/94 are incomplete. A number of faculty members are involved, invariably as principal investigators, with large projects that have co-investigators. For such group research, the funding has been allocated pro-rata among the number of co-investigators involved, and spread over the lifetime of the grant or contract. Considerable portions of the amounts listed under the "Other Peer Adjudicated" column, have been spent on research hardware, software and materials required for the graduate students to conduct their thesis specific research. Also, considerable portions of the "Granting Councils, Contracts and Other" funding amounts were/are used to support graduate students researchers in the forms of research assistantships and research stipends (see Section 3.3).

The information summarized in Figure 2.2, and presented in greater detail in Table 2.2, indicates the total research funding of the core faculty members involved with the proposed postgraduate program, by source and year. The illustration and table identify the funding amounts received by faculty members at Ryerson and at DalTech. It is clear that, in general, the research funding of those two categories of core faculty members are of similar magnitudes, and that the total amounts have been increasing during the seven year time horizon (six in the case of DalTech). It is also interesting to observe (Table 2.2) that the level of "granting councils" funding has increased threefold over the five-year period from 1994/95 to 1999/2000, in spite of the fact that the funds available from that source for Canadian universities have increased little during this period. The level of funding from the "granting councils" represents about 30% of the over $7.7 million total funding level (over the past seven years).

Fig. 2.2 Total Research Funding



The information related to the total external operating research funding levels by fields (over the past seven years) is provided in Table 2.2A. On the "output" side, review of the core faculty members' CVs reveals the considerable and extensive research productivity and experience of the group of faculty members involved, as measured by the number of graduate theses supervised, books and chapters of books written, and papers published in refereed scientific journals and refereed conference proceedings.

Table 2.2 Operating Research Funding by Source and Year

Year	Category	Source				
		Granting Councils	Other Peer Adjudicated*	Contracts	Other	Total
1993/94	1	$64,000	-	$338,100	-	$402,100
	3	-	-	-	-	-
1994/95	1	$132,600	-	$398,000	-	$530,600
	3	$65,000	-	$70,000	$10,000	$145,000
1995/96	1	$146,700	$43,800	$365,900	$4,500	$560,900
	3	$89,000	$57,000	$25,000	-	$171,000
1996/97	1	$173,800	$407,200	$407,700	$8,000	$996,700
	3	$164,000	$170,000	$160,500	-	$494,500
1997/98	1	$235,100	$39,500	$632,900	$17,000	$924,500
	3	$165,500	$150,000	$157,500	$10,000	$483,000
1998/99	1	$370,800	$108,300	$343,400	$36,000	$858,500
	3	$135,300	$235,000	$70,000	$3,700	$444,000
1999/2000	1	$402,200	$148,800	$336,200	$11,200	$898,400
	3	$151,300	$220,000	$511,000	-	$882,300
TOTAL		**$2,295,300**	**$1,579,600**	**$3,816,200**	**$100,400**	**$7,791,500**

*–Mostly Strategic and Equipment Grants

Table 2.2A Total External Operating Funding by Field (past seven years)

Field	Granting Councils	Other Peer Adjudicated	Contracts	Others	Total
Computer systems and applications	$1,039,300	$1,454,350	$2,248,500	$53,250	$4,795,400
Power Electronics	$662,100	$121,300	$657,800	-	$1,441,200
Computer Networks	$593,900	$3,950	$909,900	$47,150	$1,554,900
TOTAL	**$2,295,300**	**$1,579,600**	**$3,816,200**	**$100,400**	**$7,791,500**

2.3 Graduate Thesis Supervision

Table 2.3 indicates the level of graduate thesis supervision experience of the core faculty members involved in the proposed postgraduate programs. Faculty members who have joined Ryerson or DalTech during the past year, directly after completing their Ph.D. degree requirements, are yet to gain graduate thesis supervision experience. The core faculty members who joined Ryerson or DalTech in 1997 or earlier are currently involved in graduate thesis supervision, and some have previous supervision experience. The commendable record of graduate thesis supervision of the Ryerson core faculty members is achieved in spite of the fact that Ryerson currently has no approved graduate programs, and only achieved university status in 1993. In most of the cases indicated in Table 2.3, Ryerson core faculty members were/are principal graduate thesis supervisors. The graduate students conducted (and continue to conduct) their thesis research at Ryerson in the majority of cases, but earned/or will earn their graduate degrees from other joint-partner or collaborating universities, or through adjunct professorial activities. Over their careers (since 1994) at Ryerson, core faculty members (category 1 in Table 2.1) have supervised 31 Master's and 2 Ph.D. students who completed their degree requirements, and 3 post-doctoral fellows. Currently they supervise 20 Master's, 6 Ph.D. students, and 2 post-doctoral fellows.

2.4 Current Teaching Assignments

The normal teaching workload of the core faculty members involved in the proposed postgraduate programs, whether they are at Ryerson or DalTech, is three to four courses per academic year, equivalent to 9 – 12 course credits. In the case of DalTech, one or two of the normal teaching workload is/are graduate level course(s). When the proposed joint-postgraduate programs are approved and implemented, Ryerson's core faculty members will normally teach one graduate level course per academic year, as part of their normal teaching workload.

2.5 Commitment of Faculty Members from other Graduate Programs

The commitment of the joint-partnership, particularly of the core faculty members from DalTech (category 3), to the proposed postgraduate programs, is discussed in Section 4.5. It should also be mentioned that, in the special cases where the graduate students' thesis research require specialized hardware equipment available at DalTech, arrangements will be made for them to undertake such research activities at DalTech.

Table 2.3 Core Faculty: Career and Current Numbers of Thesis Supervision

Member	Career			Current		
	Master's	Ph.D.	PDF	Master's	Ph.D.	PDF
Category 1						
Auda, G.					2	
Chen, Y.C.	2					
Cheung, R.		1		2	1	
Danziger, P.						
Fairgrieve, T.F.	1					
Ferrando, S.						
Ferworn, A.						
Filip, A.						
Hinton, H.	2			4		
Hussein, A.	6			1		
Istepanian, R.	12				1	1
Kassam, M.			1			
Kennedy, D.	1			1		
Kirischian, L.						
Kolasa, L.						
Kolios, M.						
Krishnan, S.						
Ma, N.W.	1					
Mason, D.				2		
McInerney, T.J.						
Mekhiel, N.						
Ord, G.						
Sadeghian, A.						
Santos, M.						
Woit, D.				1		
Wu, B.	2	1	1	5	2	1
Yuan, F.						
Zarnett, G.						
Zeytinoglu, M.	2			1		
Zhang, K.	2		1	3		
Category 3						
Cada, M.	7	5	6	8	2	1
Chen, Z.	3	1	3	2		1
Dupuis, D.	1	3			1	
Fenton, G.A.	4				1	
Hughes, F.	2			1		
Ilow, J.	4				1	
Little, T.			1	1		1
Slonim, J.	1	1		2	1	
TOTALS	**53**	**12**	**13**	**34**	**12**	**5**

III. PHYSICAL AND FINANCIAL RESOURCES

3.1 Library Resources

A summary statement by the Chief Librarian, Ryerson Polytechnic University, on the university holdings and resources pertinent to the proposed fields of specialization, is reproduced in Appendix II. Over the past four years, the Library budget has increased from $3.5M per year to about $5.1M per year. Almost all of the extra funds are directed towards acquisitions. Ryerson's Library budget for digital technology is $340,000 per year. This investment means that graduate students and faculty members can now access more than 70 full-text and bibliographic databases, and over one million full-text articles. Online databases accessible through the Library include Academic Search Full Text Elite, which cites 3,000 journals including more than 1,000 in full-text and Computer Database, with the full-text of 100 computer science journals. The Library also offers a fully subsidized interlibrary loan system providing just-in-time service.

It is also important to note that Ryerson's Faculty of Engineering and Applied Science graduate students have full access privileges to the University of Toronto's Faculty of Engineering and Applied Science Library, which is one of the most extensively resourced specialized libraries in Ontario. This arrangement will be extended (and formalized) once the proposed postgraduate programs are into the initial implementation phase.

Through the joint graduate program agreement with DalTech, the graduate students in the Ph.D. program will also have full access privileges to the excellent Library facilities at DalTech and Dalhousie University.

3.2 Laboratory, Computer Facilities and Research Space

3.2.1 Research Space

All of the faculty members who will be involved in activities related to the proposed postgraduate program, have appropriately furnished individual private offices; each is equipped with a personally selected research quality computer, connected to the appropriate departmental-based or university-based network. It is the Faculty's policy that newly appointed faculty members are eligible for a "research seed funding start-up grant", currently of the order of $15,000. In anticipation of the implementation of the proposed postgraduate programs, the Faculty of Engineering and Applied Science at Ryerson, has requested that:

(i) an additional 1500 m^2 of space be allocated to the Faculty to create graduate students' offices and private research space, sufficient to serve the anticipated full-time enrollment in the postgraduate programs.

(ii) funds be allocated to expand and establish additional research infrastructure laboratory facilities (about 1500 m^2 approximate area) in the various departments of the Faculty, and also to renovate the existing research laboratory facilities.

In the light of the recent announcement (May, 1999) of a capital grant associated with the ATOP initiative for a new building (approx. 20,000 m^2), a positive response to these requests is expected.

3.2.2 Computer and Laboratory Facilities—Ryerson

3.2.2.1 Ryerson Facilities

Most of the research equipment facilities and equipment (laboratory, test and measurement equipment, computer hardware and software components) presented below is already installed and functional. Ryerson faculty and their graduate students are currently using these facilities. In addition to the installed research infrastructure base, the department is planning to expand its research infrastructure by investing in two important laboratory facilities: the Computer Systems and applications Design Laboratory and the Computer Networks Laboratory. Further information about these initiatives is given in the appropriate sections below.

3.2.2.1.1 Computing Facilities

The Department of Electrical and Computer Engineering has a highly developed computing environment. There are currently 285 workstations connected to the department's local area network (domain name: ee.ryerson.ca). These workstations consist of 168 Sun SPARCstations. The numbers in parenthesis indicate the number of installed systems of a particular model: Ultra 10 (9), Ultra 5(48), Ultra 1(4), Model 5(56), LX (12), IPC/IPX (12), 1/1+/2/ELC/SLC(27) and 117 PC-UNIX workstations (Pentium and Pentium-II CPU based computers (47), 486/386 CPU based computers (70)). All of the above computers are connected to the department network, which is in turn connected to the Ryerson backbone (ATM, 155 Mbit/s) and to the Internet. Three compute/file server (Sun E3500 servers with 6/2 processors and 4/2 GB main memory and 1 Sun Ultra Enterprises-2 server with 2 processors and 512 MB main memory), a modem/mail/news/WEB server (PC-Linux, Pentium-Pro 200 MHz CPU with 128 MB main memory) provide centralized services. Several external telephone lines also allow modem/remote access.

About 170 workstations are in the undergraduate laboratories; the remainder are in the offices and/or dedicated research facilities for faculty, staff and graduate student use. In particular, 18 SUN and PC-UNIX workstations are dedicated to graduate student use (located in 3 graduate student offices and research laboratories). As a result of the distributed computing environment (the majority of applications run locally) graduate students and research faculty have almost exclusive use of the departmental compute servers. The following application software packages are available for teaching, research and development:

(a) For Numeric and Symbolic analysis, engineering system design and simulation MATLAB, SIMULINK with a full suite of specialized toolboxes, Maple, Simscript, Octave.

(b) For Hardware/software design and development - Altera MAX+PLUS II FPGA design and development package, GNU software development tools, C, C++, Fortran and Pascal compilers, graphic debuggers, Highwire, Magic, Mentor Graphics, Motorola 68000 and 68HC11 development tools, Motorola fixed-point (DSP56k family) and floating point (DSP96k) development packages, ORCAD, (PC)SPICE, Quicklogic VHDL and FPGA tools, Tk/TCL tools, Cadence, Synopsys and Xilinx IC design packages.

(c) For CAD, Text Processing and Graphics - various CAD, plotting, electric circuit capture (ORCAD), scientific word-processing, typesetting, graphic and image processing packages.

3.2.2.1.2 Computer Systems and Applications Laboratory.
The Department of Electrical and Computer Engineering is in the process of establishing a computer systems and applications design laboratory. This facility will be the centre of activities for the development of efficient embedded system design tools. The facility will also support the development activities of other research groups (such as the power electronics and signal processing groups) who employ computer systems and applications/controllers as an integral part of their prototype designs.

Ryerson funds will support the establishment of this facility. Furthermore, researchers working in VLSI and embedded system design work will be able to utilize the facilities of Canadian Microelectronic Corporation (CMC) for manufacturing microelectronic circuits developed at Ryerson as part of this research program. The Computer Systems and Applications Laboratory houses the following equipment and tools:

(a) Software: Cadence IC and PCB/MCM Design and Simulation Tools; Synopsys Synthesis and Simulation Tools; Hspice Circuit Simulation Tool; and, Xilinx-Synopsys.

(b) Hardware: Four engineering workstations (Sun Ultra 10 systems with 256 MB main memory; fast graphics subsystems and large screen high resolution monitors).

(c) The Computer Systems and Applications Laboratory will include the following test equipment: circuit and in-circuit emulation (ICE) test and measurement facilities; VXI/HPIB test instrumentation cluster controlled by a HP-745i workstation running VEE-Test. The instrument cluster will contain all the basic equipment for doing digital and sampled data testing of digital, analog, and mixed-signal circuits/devices (with speeds up to 100 MHz for the digital and 1 GHz for the analog).

3.2.2.1.3 Computer Networks Laboratory.
The computer networks program is a joint initiative between the Departments of Electrical and Computer Engineering at Ryerson and DalTech, the School of Computer

Science at Ryerson, and Cisco Systems, Canada. The laboratory facility in support of the computer networks program will support both the M.Eng. program and the research activities in the areas of computer communication and data networks.

The laboratory will consist of computing equipment (to be purchased by the participating departments at Ryerson) and networking equipment (to be donated by Cisco Systems, Canada). In February 1998, Cisco Systems, Canada submitted a letter of intent to Ryerson committing to donate networking equipment worth $275,000. Furthermore, the Department of Electrical and Computer Engineering and the School of Computer Science at Ryerson allocated funds (from departmental and Ryerson university status [Track 2/3] funds) toward the establishment of this facility. The renovation and furbishing of the computer networks laboratory is now complete. We expect to equip this laboratory in the summer of 1999.

The Computer Networks laboratory equipment will include the following equipment:

(a) Computing equipment: 1 Sun Ultra Enterprise-250 compute and file server; 18 Sun Ultra 10 workstations (or comparable systems).Software: Comnet III network design and simulation software, C and C++ compilers, real-time application development tools, debuggers, editors, text processing, data visualization and graphics packages.

(b) Networking equipment: Sixteen equipment racks each housing 2 Cisco Systems 2500 series routers, 1 two-port Token-Ring hub, and 1 two-port Ethernet hub (each equipment rack will have a direct communication link with a workstation; the equipment racks will be in turn wired to a head-end wiring cabinet which will house additional routers, switches and hubs); 2 Cisco ATM switches, 4 network sniffer modules.

3.2.2.1.4 Power Electronics Research Laboratory

The power electronics laboratory is a fully equipped facility that allows the development and testing of a wide variety of power electronics projects. The following is a comprehensive listing of the test and measurement equipment currently installed in the power electronics laboratory. Please note that the list includes purchased as well as in-house developed equipment.

(a) Software and hardware development tools: TMS320C31 DSP-based SBC31 Super Controller, Innovative SBC31 DSP Development Tool, PSIM Simulation Tool (full version), PSPICE A/D Simulation Package (full version), Electromagnetic Transient Program (EMTP), several Pentium class computers, various plotting and printing devices.

(b) Measuring equipment and devices: OSCILLOSCOPES - Fluke PM3335 20MS/s Oscilloscope, Fluke PM3365 100MS/s Oscilloscope, Fluke PM3384 200MS/s Oscilloscope, Tektronix THS720P 500MS/s Oscilloscope, Tektronix TDS7540 2GS/s Colour Display Oscilloscope; OTHER - Fluke PM5135 Function Generator, HP E3630 Triple Logic Power Supply; PROBES AND SENSORS - Tektronix TM503 Probe, PEM Rogowski Probes, Fluke 80i-110s Probes, various

voltage and current sensors.

(c) Solid-state devices. 6kVA IGBT Inverters with Gate Driver Board, 20kVA 12-Pulse Transformer 20kVA SCR Rectifier with a Microprocessor Controller, 5kVA SCR rectifiers, 20kVA GTO Based Converters, 800A GTO Device Tester, 6kVA Multilevel Converter, 5kVA Active Power Filters.

(d) Test devices. 600V 30kVA Isolation Transformer, 10kW Resistor Banks, 30A Variacs, Motor Generator Sets (2hp to 5hp).

3.2.3 DalTech's Research and Facilities

The research facilities relevant to the proposed postgraduate program are described below.

3.2.3.1 Engineering Mathematics

The Department of Engineering Mathematics offers programs leading to M.Sc. and Ph.D. degrees in Engineering Mathematics. The interests of the Engineering Mathematics faculty at DalTech include Computational Fluid Dynamics and Hydrodynamics, Physical Modelling of Arterial Blood Flow, Solid and Continuum Mechanics, Numerical Linear Algebra and Systolic Arrays, Harmonic and Semi-Continuum Methods in Bridge Analysis, Random Field Theory with Applications to Engineering Problems, Computational Statistics, and Analysis of Non-Linear Coupled Oscillators. The department has one DEC-Alpha workstation, two Sun Sparcstations and a local network of PC's to aid with numerical calculations.

3.2.3.2 Computer Science

Research focuses on:

(a) Abductive Reasoning: the problem of automatically generating hypotheses is considered, based on the abductive inference mechanism. In particular, the research topics are concerned with studying issues of efficient implementation, applications to diagnostic systems and incorporating equality using the surface deduction formalism.

(b) Object-Oriented Design of Graphical User Interfaces: investigation centres on issues surrounding the design and implementation of complex interfaces. In particular, the research topics are concerned with studying message-flow languages for specifying object interactions, the agent paradigm for overshadowing object behaviour, multiple polymorphism, modelling interfaces by representing events and activities as objects.

(c) Visual Programming: research in this area deals with the design of software environments using visual languages. Several directions of research are being based on the Prograph software development environment: specifically, gestural interface design, extensions of Prograph to logic programming (Lograph) and pictorial specification of parallel algorithms.

(d) VLSI and VLSI Design Automation: the primary focus is on improved methodologies, tools and algorithms for the design of integrated circuits. One area centres on the development of a new object-oriented hardware description language and modelling system based on visual programming principles. A collaborative area with the

Departments of Electrical and Computer Engineering and Engineering Mathematics are focussed on high-level synthesis of DSP and systolic architectures. They are also involved in the development of special-purpose VLSI architectures for applications such as medical imaging. Other areas of research include expert systems, concurrence and parallelism, broadband network applications and network management tools and applications. Equipment used for teaching and research includes Networks of Macintosh and IBM compatible microcomputers, X-terminals, Hewlett-Packard, SUN and DEC workstations and servers.

Research is supported by Hewlett-Packard Canada, the Canadian Microelectronics Corporation, the Natural Science and Engineering Research Council of Canada and the "Networks of Centres of Excellence" program (the School is a Centre of Excellence in the Robotics and Intelligent Systems network).

3.2.3.3 Electrical and Computer Engineering

The Department of Electrical and Computer Engineering has an active and varied research program funded by the University, NSERC, and collaborative industry grants and contracts. Some of the research areas and topics are:

(a) Bio-medical engineering including DSP of physiological signals, development of medical instrumentation, wheelchair stability, and cardiac mapping;
(b) Communications including digital modulation and demodulation techniques, Trellis Coded Modulation (TCM) and Multiple TCM, channel coding, modulation and receiver algorithms for mobile communications and optical fibre communications;
(c) Electromagnetics including acoustic wave modelling and simulation, and antenna design and analysis; Accoustic Wave Modelling and Simulation, Modern Control Theory including modelling and optimization of dynamic systems;
(d) Microwave Engineering including RF and microwave circuit CAA and CAD; Optics including nonlinear optical waveguide devices, optical interconnections, optical computing, and optical image processing;
(e) Power Systems including system and computer applications in power system planning and operations;
(f) VLSI and Artificial Neural Networks including realizations and applications for analog and digital ANN'S switched capacitor filter design and test, and computer architectures;
(g) Signal Processing including special purpose Real Time DSP algorithms and systems for speech processing and computer vision for robot navigation and automated diagnostic systems.

3.3 Financial Support

Financial support from various sources will be available to eligible full-time graduate students. New and current sources of financial support provided through the Faculty of Engineering and Applied Science at Ryerson are identified below. Current graduate students at Ryerson (supervised by Ryerson faculty members through their adjunct appointments at other universities) are provided with financial support in accordance with the process identified under research fellowships/stipends and teaching assistantships.

3.3.1 University/Faculty Research Scholarships

Prospective graduate students who are eligible for NSERC postgraduate scholarships and Ontario Graduate Scholarships (OGS) will be strongly encouraged to apply to these traditional sources of financial support for graduate students. In the awarding of the University/Faculty based research scholarships preference will be given to students who applied for NSERC postgraduate scholarships and/or OGS. It is expected that there will be a centrally funded pool of graduate scholarships. Each scholarship will be renewable once for a maximum duration of two years for the M.A.Sc. program, and renewable twice for a maximum duration of three years for the Ph.D. program. The Faculty Graduate Studies Council will award these scholarships.

It is expected that at least six of these scholarships will be awarded to the graduate students in the proposed graduate program. Based on the initial program enrollment data (see Table 4.4), the number of graduate students holding a University/Faculty research scholarship, will represent 20 per cent of the total M.A.Sc./Ph.D. enrollment. A smaller percentage of the graduate students are expected to receive NSERC postgraduate scholarships or OGS.

3.3.2 Research Fellowships/Stipends

At the present, the individual operating grants awarded by the Granting Councils to Ryerson faculty members are not sufficient to fully support qualified graduate students. Therefore, since 1994 the program departments at Ryerson have been providing supplemental fellowships to graduate students supervised by Ryerson faculty members through their adjunct appointments at other universities. These fellowships supplement the research stipends paid from the faculty members' NSERC or equivalent operating grants. During the last 3 fiscal years (96-97 through 98-99) the Department of Electrical and Computer Engineering paid a total of $158,139 in research fellowships from its operating budget and research overhead monies. This amount is *in addition* to the $135,090 paid by the faculty members from their own research funds over the same period. Since, fourteen faculty members from the Department of Mathematics, Physics and Computer Science (MPCS) at Ryerson will be an integral part of the proposed graduate program, the Departments of Electrical and Computer Engineering and MPCS are committed to continue providing fellowship support from their own operating funds.

A maximum of $5,000 per graduate student will be made available to supplement the research stipends paid from the faculty members' NSERC or equivalent operating grants. The goal is to make these research fellowships/stipends consistent across the various departments in the Faculty, providing $13,000 per fellowship. Research fellowships will be renewable for a

maximum of two years for the M.A.Sc. program, and for a maximum of three years for the Ph.D. program. Other research stipends from research contracts and other external sources may also be available to the graduate students. It is expected that 50 per cent of the full-time graduate students will be funded through research fellowships. The remaining full-time graduate students are expected to have their own funding, which may include foreign based scholarships as in the case of international students.

It is interesting to note that the total cost of providing research fellowships from the faculty members' Granting Council funds (at $8,000 per student) to all eligible 30 graduate students in the initial enrollment phase (see Table 4.4) is $240,000. This amount corresponds to approximately 60 per cent of the current level of funding in this category (see Table 2.2). As the faculty members gain further research experience and expertise, the quantity and quality of their research output will increase. Therefore, it is reasonable to expect that the faculty members' grants from the Granting Councils will also increase in number, and in amount, thus supporting the expansion of the number of graduate students to the steady-state levels indicated in Table 4.4.

3.3.3 Academic Assistantships

Academic assistantships will involve delivery of tutorials, laboratory supervision, and grading in undergraduate courses. A one-term, 3-contact hours academic assistantship will pay $1,500. All full-time graduate students will be eligible for a maximum of two 3-contact hours academic assistantships per term, or four per year. Thus, academic assistantships can provide additional financial support up to a maximum of $6,000 per annum per student. Academic assistantships will be renewable depending on availability, good performance and maintenance of the full-time graduate student status. The Departments of Electrical and Computer Engineering and MPCS at Ryerson currently pay a total of $150,000 every academic year to academic assistants, an amount equivalent to *one hundred* 3-contact hours academic assistantships. This number is based on the current undergraduate enrollment in the Faculty. In the coming years, the number of academic assistantships available in the two Departments will increase further as a result of increased undergraduate enrollment under the Access to Opportunities Program (ATOP).

IV. PROGRAM REGULATIONS AND COURSES

The calendar (brief) descriptions of the graduate courses that will be offered through the proposed postgraduate programs, are provided in Appendix III.

4.1 Administrative Structure

The programs, once established, have to evolve. It is the administrative structure proposed that will facilitate this program's development. All graduate programs in engineering will be administered by the Associate Dean for Graduate Studies and Research, of the Faculty of Engineering and Applied Science at Ryerson. The "Graduate Studies Office" will be provided with appropriate administrative support in order to execute all aspects/activities related to the planning, operation and administration of the postgraduate programs. The Associate Dean will consult frequently and liaise directly with the Associate Principal, Graduate Studies and Research, at DalTech/Dalhousie University, to ensure the efficient and smooth operation of all aspects relating to the offering and implementation of the proposed joint M.Eng. (Computer Networks) and Ph.D. programs.

Each engineering department in the Faculty will have a Graduate Program Coordinator (or Associate Chair). S/he will be responsible for approving the initial course registration of graduate students, the appointment of the appropriate graduate guiding committee for each graduate student, liaison between the Associate Dean, the Faculty Graduate Studies Council (FGSC), and the department (chair) to ensure the appropriate offering of the graduate courses (faculty workloads), program planning and developmental activities, new courses, graduate students' administrative matters, etc.

The Ryerson School of Graduate Studies (RSGS) is chaired by the Dean of Graduate Studies (currently the Associate VP Academic). The RSGS is the academic body of Ryerson Polytechnic University governing graduate programs, courses, and policy. It has representation from the various graduate programs and the graduate student body. The RSGS reports to the Academic Council of Ryerson (Senate).

The FGSC consists of the Dean, the Associate Dean for Graduate Studies and Research, the Graduate Program Coordinators of each department, a member of Ryerson's School of Graduate Studies (RSGS), and three elected graduate student representatives. The FGSC will recommend, through the Ryerson's School of Graduate Studies, the approval of new courses and modifications or development of programs to the Senate (both at Ryerson and Dalhousie Universities) following the appropriate procedures. The FGSC will also approve requests for leaves of absence, transfer of course credits, transfer of programs, and act as graduate scholarship and awards committee. It will also monitor the implementation of the academic regulations approved by the Senate, and will provide the Senate through RSGC with long-term planning regarding the postgraduate programs and relevant academic policies. The FGSC will undertake activities related to the cyclical OCGS Program Review process, in collaboration with RSGS.

It is expected that soon after the implementation of the proposed programs, a "Graduate Students Society" will be formed, to promote the unity and welfare of graduate students, and to further the intellectual and cultural interests of graduate students. The society will hold regular consultation with the programs' administrators on issues of collective interest to the graduate students, and will also intervene on behalf of individual graduate students whose valid and legitimate concerns are not being adequately addressed. The society will also organize talks and seminars, as well as social activities. It should be mentioned that the graduate students who are currently conducting their thesis research at Ryerson, have an "informal" graduate students organization.

4.2 The Intellectual Development of the Students

The programs' objectives have at their heart a clear commitment to advanced-level intellectual development of the graduate students in the specific area of their specialization. Students will learn how to think critically and independently about specific problems (or projects) in the various graduate courses required. The proposed program requires that the graduate students enroll in at least one of the core subjects. These subjects are designed to expose the graduate students to state-of-the-art advanced mathematical and software analysis and design tools necessary for specialized, advanced and critical investigation of research topics. Graduate courses are designed not only to provide advanced specialized knowledge, but also to challenge the students' critical and rational thinking ability. Most, if not all, of the graduate courses have "project-type" assignments as an integral part of their requirements. Each of the students enrolled in the M.A.Sc. and Ph.D. degree programs will also be required to undertake one "independent study" course, designed primarily to prepare the student in the specific "topic oriented" research thesis. Seminars will be organized for oral presentation of "research thesis proposals".

The part-time M.Eng. program, which has mostly course requirements, has a mandatory two-credit project requirement. These projects are approved, and eventually evaluated, by the guiding/examination committee, in a manner very similar to the research thesis type of activity. Projects may consist of an advanced design assignment, laboratory research project, analysis of research data, or an in-depth review of an approved aspect of the scientific literature.

Besides attending "research seminars" and learning to take part in critical discussions, all students must present and defend their research thesis and/or project report in an open seminar format, attended by their peers, and also the examination committee.

It is expected that the results obtained and the new ideas developed in the thesis research activities will be published in refereed literature, as further confirmation of the quality of the research outcomes.

4.3 Program Regulations

4.3.1 Admission Policies

The minimum admission requirement to the Master's level postgraduate program include a four year degree (or equivalent) Bachelor's degree in Electrical, Computer or Mechanical Engineering, or Computer Science from a recognized university with high academic standing for previously completed undergraduate work. Two letters of reference are also required from former professors (one may be included from a previous employer) familiar with the applicant's abilities. Students whose previous language of instruction was not English must have a score of at least 580 on the Test of English as a Foreign Language (TOEFL), or at least 90 on the Michigan English Language Assessment Battery (MELAB) or equivalent.

For the M.Eng. program, applicants must have a minimum second class standing, or a GPA in the "B" grade category, in a previously completed undergraduate degree program. For the M.A.Sc. program, applicants must have a minimum GPA of upper second class, or B+, in a previously completed undergraduate degree program.

The admission criteria for the Ph.D. degree joint-programs requires that the candidate must have successfully completed an appropriate Master's degree in one of the relevant Engineering or Applied Science disciplines, and must show evidence of research potential in the form of well-written thesis and/or research published in refereed journals or conference proceedings. Applicants must have a GPA of at least A- or 80% in the courses credited to the Master's degree.

4.3.2 Degree Requirements

4.3.2.2 The M.Eng. program requires the successful completion of ten course credits consisting of eight one-term courses and a two-credit project. No undergraduate credits may be taken towards the degree. No less than six of the required eight courses must be taken at Ryerson. Two of the eight graduate courses must be from the core courses, while the remaining six courses can be chosen from the Electrical and Computer Engineering graduate courses listed in Appendix III – part B (or equivalent).

The M.Eng. program in Computer Networks requires twelve course credits (ten one-term courses and a two-credit project). At present, all courses in this program are mandatory (see Appendix III – part C). A maximum of two course credits (from the required ten course credits) can be granted to postgraduate students with backgrounds in Electrical or Computer Engineering, or Computer Science, depending on each student's specific undergraduate preparation.

The guiding committee for each of the graduate students must approve the graduate course selection. The project supervisor, and the guiding committee, must approve the proposed project plan (which will be presented in writing by the student). An oral presentation of the project report, and results, will be arranged in a seminar

format. The guiding/examination committee will assess and grade the candidate's project report.

4.3.2.2 The M.A.Sc. graduate program consists of not less than six one-term course credits and a research thesis accounting for the equivalent of four course credits. One of the six graduate courses must be from the core courses. With the approval of the thesis supervisor, one of the six courses may be a "directed studies" course, directed by the thesis supervisor. The remaining courses may be chosen from the graduate courses listed in Appendix III – part B (or equivalent). The guiding committee, and the thesis supervisor, must approve the course selection for each of the respective graduate students. The guiding committee, and the thesis supervisor, must approve the thesis research plan/proposal (which will be presented in writing by the student). An oral presentation of the research thesis, and the research results, will be arranged in a seminar format. The guiding/examination committee will assess and grade the candidate's research thesis.

4.3.2.3 A minimum of six one-term course credits beyond the Master's degree are required for the Ph.D. degree programs, in addition to the major research thesis requirement, and the Ph.D. comprehensive examination. With the approval of the student's thesis supervisor, one of these courses may be a "directed studies" course. These required courses may be taken at Ryerson or at DalTech, or through teleconferencing. No undergraduate course credits are allowed in a Doctoral degree program. The guiding committee, and the thesis supervisor, must approve the course selection for each of the respective graduate students.

4.3.2.4 The guiding committee, and the thesis supervisor, must approve the thesis research plan/proposal. This plan is presented in a seminar format, as the oral component of the comprehensive examination. Each Ph.D. candidate must also pass a written comprehensive examination in their specific area of specialization. The approval of the RSGS is required for the composition of the thesis examination committee, and the appointment of the external examiner. An oral defence/presentation of the research thesis and the research results will be arranged, in a formal seminar format. The Dean of Graduate Studies, or his/her appointee, acts as a "Moderator" to the Ph.D. thesis oral examination. The examination committee, including the thesis supervisor and the external examiner, assess and grade the candidate's research thesis.

4.3.3 Grade Requirements

Graduate students could be asked to repeat a course if a course mark is less than B- (70%). Graduate students are allowed to repeat no more than one course during their tenure in the program. Failure to maintain an acceptable academic standing could result in a student being asked to withdraw from the program. Failure in more than one graduate course (less than B- or 70%) shall be considered grounds for dismissal.

A student may retake either the written or oral comprehensive examinations (but not both) only once.

4.3.4 Residency Regulations

The minimum and maximum length of time allowed for the completion of the requirements of each of the degrees are indicated in Table 4.1.

Table 4.1 Residency Regulations

	M.A.Sc./M.Eng. Full-time	M.Eng. Part-time	Ph.D. Full-time
Minimum residency requirement	12 months (3 academic terms)	24 months (6 academic terms)	24 months (6 academic terms)
Maximum length of time to complete degree	3 calendar years	5 calendar years	7 calendar years

4.4 Full-time and Part-time Studies/Course Scheduling

4.4.1 The M.Eng. program is offered mostly on a part-time basis for employed professionals. The M.Eng. program in Computer Networks is offered primarily on a full-time, full fees cost recovery basis, but registration on a part-time basis will also be allowed. Courses will be offered in a modular two-weeks format (one course per month) to accommodate employed graduate students who are interested in only a few of those courses for professional development purposes. The M.A.Sc. and Ph.D. postgraduate programs are offered on a full-time basis. Transfer from full-time to part-time status, and vice versa, needs the approval of the Faculty Graduate Studies Council, particularly when the maximum time span allowed for program completion could become an important factor for consideration.

4.4.2 All of the graduate courses (except for those belonging to the M.Eng. program in Computer Networks) will be scheduled in the twilight/evening time slots: 4:00 – 7:00 p.m. and 7:00 – 10:00 p.m., Monday to Thursday during the Fall and Winter terms. During the Spring term, a reduced number of courses will be scheduled on an accelerated basis, i.e. twice per week. Two of the core courses will be offered in the Fall term and the other two core courses will be offered in the Winter term. Further, it is expected that five to eight discipline-specific graduate courses will be offered during each of the Fall and Winter terms, and half that number will be offered during the Spring term. Graduate courses repetition cycle is expected to be two years (if applicable), except for the core courses and the specialized M.Eng. program courses in Computer Networks whose repetition cycle is one year. Therefore, over a two-year time span, a total of 24 - 40 discipline graduate courses would be available to the graduate students, thus ensuring an ample selection of courses to enhance the programs' objective of focused specialization. Availability of courses to full-time and part-time students is therefore exactly the same.

4.4.3 Due to the fact that the graduate courses constituting the specialized curriculum in the M.Eng. program in Computer Networks are all mandatory, a defined program schedule is provided in Table 4.2 below.

Table 4.2 M.Eng. in Computer Networks: Proposed Course and Instructor List

COURSE		INSTRUCTOR(S)
Term 1:		
EINE 5101	Introduction to Computer Networks	Dr. G. Zarnett Prof. R. Nagendra
EINE 5201	Mathematics for Computer Networks	Dr. S. Fernando Dr. T.L. McInerney
EINE 5102	Physical and Data Link Standards and Protocols	Dr. N.W. Ma Dr. Y.C. Chen
EINE 5104	Internet Communication Protocols	Dr. G. Zarnett Prof. R. Nagendra
Term 2:		
EINE 5103	Telecommunication and Wide Area Networks	Dr. A. Ferworn Dr. K. Zhang
EINE 5202	Simulation Modelling and Analysis	Dr. Y.C. Chen Dr. D. Kennedy
EINE 5402	Software Engineering and Operating System Design	Dr. H. Hinton Prof. A. Mastoras
EINE 5401	Real-Time Operating Systems and Platform Architectures	Dr. N. Mekhiel Dr. L. Kirischian
Term 3:		
EINE 5105	Network Architectures	Dr. A. Ferworn Dr. N.W. Ma
EINE 5106	ATM Protocols, Traffic Management and Computer Networks	Dr. M. Zeytinoglu Dr. N.W. Ma
EINE 5901	Project	Faculty

4.4.4 Table 4.3 displays the typical time paths for the proposed postgraduate programs.

Table 4.3 Typical Time-Path (except M.Eng. Computer Networks)

Typical Path for Part-time M.Eng. Program		
Year I	Fall	1 core
	Winter	1 core
	Spring	1 specialization
Year II	Fall	1 specialization
	Winter	1 specialization
	Spring	1 specialization
Year III	Fall	1 specialization
	Winter	1 specialization
	Spring	Project

Typical Path for Full-time M.A.Sc. Program		
Year I	Fall	1 core or specialization 1 specialization
	Winter	3 specialization or 1 core and 2 specialization or 2 specialization
	Spring	Thesis research (and 1 directed studies)
Year II	Fall	1 specialization or 1 core or none Thesis research
	Winter	Thesis research
	Spring	

Typical Path for Full-time Ph.D. Program		
Year I	Fall	2 specialization
	Winter	2 or 3 specialization
	Spring	1 directed studies Thesis research
Year II	Fall	1 specialization (or none) Thesis research, Oral presentation of research proposal
	Winter	Written Comprehensive Thesis research
	Spring	Thesis research
Year III	Fall	Thesis research
	Winter	Thesis research
	Spring	Thesis research Oral defence of Ph.D. Thesis

4.5 Graduate Course Descriptions

Brief calendar descriptions of the graduate courses are provided in Appendix III, including the four core courses (part A), the mandatory courses of the M.Eng. program in Computer Networks (part C), and the discipline-specific courses (part B). Courses marked with (new) xxxx numbering are new additional courses, which may only be offered at Ryerson. Names of possible faculty members at Ryerson who may be involved in offering specific graduate course(s) are also provided with the course calendar descriptions.

4.6 Joint-Collaboration with DalTech/Dalhousie University

The collaborative agreement between Ryerson Polytechnic University and DalTech/Dalhousie University, provides for:

4.6.1 Residence at either institution - graduate students in the Ph.D. degree program at Ryerson can spend one academic term at DalTech and enroll (and obtain credits) in three graduate courses (and vice-versa). This will expand the availability of graduate courses and course choice selection in order to enhance the objective of "focused specialization".

4.6.2 Joint supervision of graduate students' Ph.D. research thesis, particularly for those students who are supervised primarily by faculty members at Ryerson with limited research supervisory experience. This will provide the necessary "mentoring" process.

4.6.3 The establishment of dedicated teleconferencing facilities at both DalTech and Ryerson (through CANARIE) — enhancing the provision of graduate courses, minimize the need to travel, and enhance the joint offering of seminars and graduate discussion groups, etc.

4.6.4 Formation of viable research teams, and joint submission of research funding proposals.

4.6.5 Collaboration in funding of joint research activities and research overhead - thus reducing the financial burden on each of the partners.

4.6.6 Sharing of access to specialized equipment - graduate thesis research activities which may require the use of specialized experimental research equipment available at DalTech or Ryerson will be available to students in both institutions. This will considerably reduce the need for expensive duplication of research infrastructure.

4.7 Enrollment Plans

The enrollment plans for the proposed postgraduate program are provided in Table 4.4 below, indicating the initial and steady-state enrollment data. The column indicating the number of faculty members reflects the present number of Ryerson faculty expected to be involved in the programs. An additional sixteen faculty members are expected to become involved in the graduate programs over the next four to seven years as a result of replacing retiring faculty members (who are not currently eligible to supervise graduate students and are therefore not

included in the data referred to in this column). Currently, the faculty members at Ryerson referred to in this Table, are involved in supervising 26 graduate students enrolled at other universities. Once the programs are implemented, it is expected that the Ryerson faculty members will reduce (or terminate) their external graduate students' supervision commitments.

Table 4.4 Graduate Programs in Electrical and Computer Engineering at Ryerson: Enrollment Plans

		2000/01			2003/04 (Steady-State)		
	Present Number of Faculty Members*	**M.Eng.**	**M.A.Sc**	**Ph.D.**	**M.Eng.**	**M.A.Sc**	**Ph.D.**
• Computer Systems and Applications • Power Electronics	30	24	27	3	32	40	10
• Computer Networks	14 **	16	0	0	24	0	0
TOTAL	**30**	**40**	**27**	**3**	**56**	**40**	**10**

* Category 1 (i.e. Ryerson) only.

** This number is not included in the total since those faculty members are already accounted for in the row above.

RYERSON

OFFICE OF THE VICE PRESIDENT, ADMINISTRATION AND STUDE

October 18, 1999

Kathleen Kwan
Secretary, Academic Council

Re: **Ombudsperson's Annual Report for 1998/99, and the University's Response to the Ombudsperson's Annual Report for 1998/99**

I am pleased to submit to Academic Council both the Ombudsperson's Annual Report for 1998/99 and the University's Response. Each of the issues raised in the Report is being addressed consistent with the President's Vision Statement. Many of the concerns have been resolved; others are still in the process of being sorted out.

I look forward to the discussion at Academic Council.

Sincerely,

Linda Grayson
Vice President, Administration and Student Affairs

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encl.

350 Victoria Street, Toronto, Ontario, Canada M5B 2K3 (416) 979-5006. Fax (416) 979-5279

August 16, 1999

Mr. Dennis Loney,
Chair,
Ombudsperson Committee,
Ryerson Polytechnic University

Dear Dennis,

I enclose herewith the University Ombudsperson's Annual Report for 1998-99 for submission to the Ombudsperson Committee.

Sincerely,

Liz Hoffman
University Ombudsperson

Office of the Ombudsperson
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REPORT OF THE OMBUDSPERSON FOR THE TIME PERIOD OF JUNE 30, 1998 TO JUNE30,1999

INTRODUCTION

This second Annual Report, covering the period from June 30, 1998 to June 30, 1999, is submitted in compliance with the Terms of Reference for the Ombudsperson (Appendix A) which require that the Ombudsperson produce "an Annual Report to the University community through the Ombudsperson Committee"(Appendix B).

For most of this year, the members of the Ombudsperson Committee were Diana McLaren (Chair), Executive Director, CESAR; Lorna Kelly, Chair, School of Interior Design; Erin George, Vice-President, Education, Ryerson Students' Administrative Council(RYESAC); Keith Alnwick, Registrar; Liz Devine, Manager, Student Services Skills Development; Nazmin Zaver, President, CESAR; and Dennis Loney, Executive Assistant, Ryerson Students' Administrative Council. After the RYESAC elections, Cory Wright as RYESAC's new Vice-President, Education, replaced Erin George on the Ombudsperson Committee. Lorna Kelly completed her term on the Committee and in July, Dennis Loney assumed the Chair of the Committee. I would like to take this opportunity to thank the members of the Ombudsperson Committee for both their valuable input and the support they provide to the Office.

When writing these Annual Reports for general distribution, I am always apprehensive that some readers will view the items included solely in a negative light as reflecting adversely on the University. It is important to note that the Report describes in many instances the successful resolution of problems and the formulation of new procedures and protocol to prevent further recurrences.

This Report includes a summary of the Office caseload for the year, updates several items raised in last year's Annual Report, and outlines a number of issues that have been brought to the Office's attention over this past year.

OFFICE OPERATIONS

The Office of the Ombudsperson at Ryerson has been open for just over two and a half years. The doors officially opened on February 1, 1997. The general goals of the Office are to advise and refer students to appropriate University resources for the resolution of their concerns; to investigate student complaints; and to bring findings and recommendations to the attention of the University.

I have continued to make myself as available to students as possible by combining both regular Office hours with set appointments for students who need to meet outside of typically regular Office hours. The Office operates under standards of confidentiality.

I have met with many students, over this past year, outside of regularly scheduled appointments. The Office took part in school club meetings, residence floor meetings, orientation programmes, RYESAC Board Meetings, CESAR coffee and muffin nights, CESAR class rep meetings, and assisted RYESAC, the Registrar's Office and Student Services in presenting University 201 seminars to students who need information on the University's rules and regulations pertaining to grades, status and appeals. Attending these functions permitted me to continue to advertise the Office but also gave me more opportunities to listen to students talk about the University.

CASELOAD

The statistics enclosed in this Report (Appendix C) outline the constituency usage of the Office and provide a breakdown of the types of cases brought to the Office during 1998-99. It is important to keep in mind when assessing the statistics that the numbers fail to truly indicate the nature and scope of the Office's activities and the time, effort and complexity required to conclude a case.

COMPLIMENTS

No one ever goes to an Ombudsperson's Office to say what a wonderful time they are having. An Ombudsperson's Office on the whole hears from individuals who have complaints or concerns. To keep things in perspective it is important for Ombudspersons to constantly be on the lookout for positive aspects or activities in the environment where they are working. For this reason, this Report includes a "compliments" section as well as a "concerns" section.

1) Ryerson's First Graduate Degree Programmes

Ryerson has had the opportunity to offer graduate programmes since 1993, when it was granted university status. Ryerson's Academic Council, this past year, approved this University's first graduate degree programmes. The planning and developmental work necessary to get to this stage is enormous. Many at the University worked on both the policies and procedures for graduate programmes as well as the programmes themselves. While the policies and procedures remain untested, they look to be clear and fair.

2) President's Meetings with Students

Being the President of any University means you have to pick and choose where you put your time. Ryerson's President, this past year, advertised and hosted a series of meetings with students to hear what they had to say about Ryerson. The sessions provided students with the opportunity to express their feelings and opinions, directly to the President, on numerous topics affecting them as students at Ryerson.

3) Staffing Final Exams During a TTC Strike

As if final exams are not stressful enough, this year, the first day of the Winter 1999 final exam schedule coincided with the first day of a TTC strike. This could have created major havoc not only with the final exam process but also the university's appeal process. The Office of the Registrar played a major leadership role in establishing final examination contingency plans which were ready to roll into place if the strike occurred — which it did. The contingency plans meant that any student who arrived for their exam late was escorted to special writing rooms. They were provided the opportunity to write the same exam as their peers and for the same length of time. This was only made possible by the overwhelming support of numerous academic and administrative staff who volunteered to assist in implementing the contingency plans. The most impressive of all, though, was the commitment illustrated by the students who in most cases not only arrived at their exams, but on time.

UPDATES ON PREVIOUS RECOMMENDATIONS

Last year's Report, which was this Office's first Report, presented ten concerns that the Ombudsperson's Office wanted to raise with the University community based on cases seen over the previous year. In this and further Reports, time will be spent reflecting on the University's response to the concerns raised and any actions that have occurred since.

Last year's Report raised concerns about communication, availability of academic staff, early feedback, usage of confidential student records and the application of the Code of Student Conduct. The Ombudsperson's Office continues to deal with cases that relate to these areas and probably will every year. As with some of the concerns that are raised in this year's Report, we hope by highlighting these issues, that programmes and administrative areas will be able to create plans to lessen their recurrence.

With respect to the availability of academic staff, the University's response included that it would "ask Deans to ensure that all departments and programmes have someone available . . . throughout the year in order to facilitate issues being addressed in a timely manner." The Secretary of Academic Council has also been assisting to ensure that appeals are dealt with in a timely manner.

The University's response on the issue of students receiving early feedback was very positive. The response stated that "since students should be receiving some form of formal evaluation prior to the drop date, it is expected that in those rare instances where such is not the case, both the department and the students in the class will be so informed at the beginning of the course." This statement provides more clarity and is much more specific than the existing Policy. It would be most helpful if this statement could be added to the Policy.

Last year's Report presented the concern that the Code of Student Conduct was not being complied with by all faculty members. Instead of following the prescribed process outlined in the Code, some faculty members were giving low marks for work they suspected of having been

plagiarized. This Office was, and continues to be, surprised at the level of misunderstanding and confusion there seems to be about a policy so key to an academic environment. At the time of the University's response, the Code of Student Conduct was under review and therefore the University's response stated that once the new Policy had been approved there would be wide distribution of the Policy. More importantly the University's response states that "a significant educational approach will then be undertaken by the relevant departments to ensure an understanding of this policy by the university community." We understand that plans are under way by both the Registrar and the Secretary of Academic Council for this to occur.

I also raised, in last year's Report, the case of two students who ran into problems with trying to write a make-up exam. This Office was very pleased to read in the University's response that "both the office of the Registrar and the Secretary of Academic Council will review the process and consider whether further policy development should be undertaken in this area in order to provide further clarity for the University community." In discussions with both the Registrar and the Secretary of Academic Council, I understand that the issues raised by this case are under review.

I also raised that the University policy entitled, "Policies and Procedures on Appeal Deadlines" states that "appeals must be submitted in person or by registered mail". Some students had reported to the Ombudsperson's Office that their programmes were not accepting faxed appeals. The University response reported that the Secretary of Academic Council, who is responsible for receiving appeals to the Appeals Committee of Academic Council, does permit appeals to be submitted by fax and that the policy will be amended to include the right to fax appeals at the other two levels of appeal.

Last year's Report also presented some recommendations for change that were implemented. We were pleased to report additions to the Continuing Education Calendar on transfer credit time limits, better communication to students being placed on probation, and clearer information for students applying for challenge credits.

While the mission of the Ombudsperson's Office includes highlighting areas that the University may seek to improve, the attainment of this mission is enhanced by the University's willingness to respond to the issues publicly and in writing.

CONCERNS

The following illustrates some of the concerns brought to the Ombudsperson's Office over this past year. It in no way reflects the full range of questions and concerns. As you can see from the statistics section of the Report, the Office met with students with questions and concerns about many areas of the University.

1) Fire Alarms

Fire alarm bells are disruptive whenever they are sounded. They cause particular disruption when they are sounded during times when students are writing tests and exams. Students potentially

lose both their concentration and their train of thought. If students need to leave the examination room, the security of the test or exam is also put in jeopardy. A number of students approached the Ombudsperson's Office concerned that fire alarms sounding during their exams had negatively affected both their grades and status. In these cases, we recommended that the student begin by talking to the professor and/or the programme and if still not satisfied to submit an appeal. The Ombudsperson's Office is aware of a case where the students, upon returning to the examination room after a fire alarm that occurred half-way into the examination period, were not permitted to finish their exam. Final grades were configured taking the fire alarm into consideration. A student is appealing his final grade requesting that he be able to write the exam when it is next set. To date, the student's appeal has not been successful. Based on discussion with the Registrar, it is understood that, after consultation with the University community, a comprehensive set of measures will be implemented this year to address the problem.

2) Access to Final Exams

The University has a policy that states that students have the right to review their final examination answer papers for the purposes of formulating an appeal. The University also states clearly in its Calendar, specific deadline dates that students must meet in submitting any appeals. A number of students, close to the appeal submission deadline dates of each term, approached the Ombudsperson's Office, over this past year, having had difficulty accessing their final exams. Some were leaving voice-mail messages for faculty members, instructors and programmes while others were dropping into Offices or e-mailing. Their major concern was that they were not going to meet the University's appeal deadline dates. In all cases, they felt that they needed access to their exams prior to submitting an appeal. For a number of students, looking at their examination helps to establish whether they even submit an appeal. For others, looking at the examination provides them with information for their appeal. It is in the best interest of both the student and the University for students to have access to their final exams prior to the submission of any appeal. In a number of cases this year, this Office and other Offices at Ryerson, based on the advice of the University, recommended to students that they submit general appeal letters to the University to meet the formally stated deadlines and then to submit new appeal letters after having been given access to their examinations. Programmes and the Office of Continuing Education may want to review with faculty members and instructors the right that students have to access their final exams for the purposes of appealing and the importance of that being done in a timely fashion so that the University's deadline dates are properly met.

3) Copyright and Ownership of Student Works

The University has a Copyright and Ownership of Student Works Policy that states that "the copyright and ownership of student-produced works reside with the student, except in situations where a special arrangement exists between the student(s) and the department, consistent with policies which are determined by Departmental Council and ratified by Academic Council, or where special contractual arrangements have been negotiated by the student with the instructor, department, or University." The Policy goes on to say that provided the student has submitted the term work by the required due date, "all student works submitted for academic credit will be returned to the student by the official end of term." Each term, the Ombudsperson's Office hears

from students who are trying to retrieve pieces of their term work from the previous term. University policy clearly states not only that this is the property of the student but that the University has an obligation to return it by a certain date. If the faculty member or programme still has the work, most of these cases are easily resolved. In a couple of cases, the faculty member or programme wanted to keep or make a copy of the student's work. If faculty members or programmes are wishing to keep or make copies of any student term work, the directions given in the Copyright and Ownership of Student Works Policy need to be followed very carefully. Our experience is that this has not always been the case.

4) Returning Term Work

The University has a policy on the confidentiality of student records. Part of the policy states, that if instructors wish to post test/assignment/interim grades of students, they must first obtain written permission from each student at the beginning of the academic year. The spirit of this policy clearly takes the position that unless written consent to release the test/assignment/interim grades is obtained, the University has the obligation to consider that information confidential. As mentioned in the previous section, the University also has a policy that states that all student works submitted for academic credit will be returned to the student by the official end of term. Students raised with the Ombudsperson's Office their concern that a number of faculty members leave term work assignments at the front of the class or outside their office doors for students to pick up. In the opinion of this Office, the practice of leaving term work out, for students to go through, causes potentially two problems. First, the spirit of the confidentiality of the student records policy is not being followed if students are able to access the grades given to other students in the class. Second, if University policy has established that the copyright and ownership of term work, unless otherwise agreed upon, resides with the student, it seems to this Office that the University has a responsibility to do that in a more secure way than leaving term work outside of office doors. Programmes may want to review with faculty members how term work is being returned to students.

5) Clarity of Information

Every year the Ombudsperson's office hears from a number of students who feel that there is more than one interpretation that can be made of information that has been given to them. This information includes the rules, regulations and procedures of the University. An example of this kind of case that we saw this past year related to information provided about the cafeteria/food contract in the Residence Handbook. Based on the wording, some students believed that it was possible to receive a refund of the unused portion of their food contract if they applied for the refund prior to a particular date. As this was not the case and to lessen any further confusion, the Student Housing Services agreed to amend the wording in the Residence Handbook. What this case illustrates is the importance and benefit of continual review of material and when issues of clarity arise that time and resources are found for amendments to be made.

6) Residence Students Who Receive OSAP Loans

Students who are approved to receive loans from the Ontario Student Assistance Programme (OSAP) receive sixty percent of their loan when they start classes and the remaining forty percent of their loan when they return to school in January. The winter term fee for residence (including room rental and food contract) is due at the beginning of December each year. A number of students, living in residence and who receive OSAP loans, approached the Ombudsperson's Office knowing that they would not have the money in December to pay for their winter term residence and food contract fees. What exacerbated this situation was that the students were under the impression that those unable to pay in December, would be removed from residence. The Ombudsperson's Office, with the assistance of the Manager of the Student Housing Services, quickly clarified with the students that this was not the case. Individual payment arrangements were made for those students who needed to receive their January OSAP loan to be able to pay for their residence and food contract fees. A winter term deferrel plan has now been put in place for students receiving OSAP loans. Also, a meeting was held between the Financial Awards Office and Student Housing Services to start to deal with the issue of payment expectations.

7) Publishing of Information

The Office heard from a student who was surprised to discover when she returned to school in January, that she would not be receiving the second allotment of her Ontario Student Assistance Programme (OSAP) loan. When students complete the OSAP application form, they are asked to state what percentage of a course load they will be taking. This is a very key question because based on the rules and regulations of the OSAP, most students must be registered in at least a sixty percent course load for each term they are registered to be eligible for OSAP loans. This specific information is not printed in the OSAP Application and Guide that students use as their basis to fill out their application for loans. The particular student, who had sought the assistance of the Ombudsperson's Office, was in her final year. She had less than a full year's course load to complete her degree because she had been granted extra credits when she had taken part in one of Ryerson's study abroad programmes the previous year. She had exactly a sixty percent course load remaining to complete her degree. She completed the OSAP application correctly stating that she would be taking a sixty percent course load. Based on Ryerson's system of being able to register in courses in both Fall and Winter terms, students can be carrying different course loads in the Fall term than in the Winter term. That was the case for this student. She met the sixty percent course load minimum in the Fall term but not in the Winter term and thus she was informed upon returning to school in January that she would not be receiving her second allotment. What the Ombudsperson's Office discovered in looking into this case was that there was no publication of the more detailed information that students need to be registered in at least a sixty percent course load for each term they are registered to be eligible for OSAP loans. Both the Financial Aid and Awards Office and the Registrar's Office accepted responsibility to arrive at a plan that would make students more aware of this information. This Office recommended that the information should be clearly stated in the Calendar and should also be included in any

handouts or web site information provided by the Financial Aid Office and that we should be recommending that the OSAP Guide should be amended to reflect this information. The University also made special financial provisions for the student who had brought this concern to the University's attention which meant that the student was able to continue in her programme.

8) Long Distance Phone Rates

The majority of students who apply to live in residence are students attending university for the first time. There is a lot to learn. For many students, this is their first year away from home. Regular contact with family and friends is important to most of these students. This contact in many cases in maintained by phone. The Ombudsperson's office was approached by a number of students in residence over this past year concerned by what the students felt was insufficient information regarding their long distance telephone rates. In Ryerson's case, residence students are billed for their long distance telephone provision by the University. The Residence Council feels that if the University is billing the students for long distance telephone service that there is a corresponding responsibility to provide the students with what the rates will be. This office concurs. The Residence Council and other students living in residence have requested that clear information be provided for incoming residence students this year. We will wait to see whether the students feel the information that they are provided with at the beginning of this academic year meets their needs.

9) Group Work

The University has two new Codes that become effective on September 1, 1999 — the Student Code of Academic Conduct and the Student Code of Non-Academic Conduct. The Code of Academic Conduct clearly defines the offences, outlines the procedures that will be followed if the University suspects a student has committed an academic offence and provides the possible penalties if the student is found to be guilty of a violation under the Code. The Code is less specific on how to process suspicions of academic misconduct when the work has been done, not by an individual student, but by a group of students or groups of students. Cases of this were brought to the Ombudsperson's attention during this past year. It is difficult to be informative on this issue when approached by either students or programmes when the Policy itself is not clear. It would be helpful to both programmes and students if there was a set of guidelines created that outlined how to apply the policy when the suspicion of academic misconduct is of a group or groups of students.

CONCLUSIONS

In conclusion, I would like to express my appreciation to the many members of the University community who assisted the Ombudsperson's Office over this past year. Your willingness to provide information and explanations and to discuss concerns that came to this Office has contributed immeasurably to most being resolved.

I would also like to extend further thanks to each and every member of the Ombudsperson

Committee — both past and present. Your time and effort has been invaluable to both myself and the Office.

I continue to enjoy the opportunity that this position affords me to work with all of you in making Ryerson the very best that it can be.

Liz Hoffman
University Ombudsperson

August 16, 1999

Appendix A

Ryerson Polytechnic University

TERMS OF REFERENCE FOR THE OFFICE OF THE OMBUDSPERSON

1. The Office of the Ombudsperson shall be independent of all existing university and student administrative structures and have the following functions:

   a) To advise and/or refer members of the University student community as needed about all situations and University procedures concerning which grievances may arise; specifically, to advise students of their rights and responsibilities and of the proper procedures to follow in order to pursue whatever business or complaint they may have. Where such information exists in University offices or publications, the Ombudsperson shall direct enquirers to these sources and emphasize their responsibility for initiating the appropriate actions and for returning to the Ombudsperson if not satisfied with the results;

   b) To investigate, in an impartial fashion, student complaints that may arise against the University or against anyone in the University exercising authority. Complaints may be made by any member holding status as a student of the University community, by former members of the student body or by student applications to the University (dependent on the discretion of the Office of the Ombudsperson), whether accepted or not at the time of the complaint. Investigations may also begin on the independent initiative of the Ombudsperson in respect of anyone of the above entitled to make a complaint;

   c) To bring findings and recommendations to the attention of those in authority by the most expeditious means possible.

2. It shall be the special concern of the Ombudsperson that:

   a) Decisions affecting members of the University student community are made with reasonable promptness;

   b) Procedures and policies used to reach decisions affecting students are adequate and consistently applied and that criteria and rules on which the decisions in question are based are appropriate;

c) Any gaps and inadequacies in existing University procedures that might jeopardize the principle of natural justice or human rights and civil liberties of members within the University student community be brought to the attention of those in authority. It would not be the function of the Ombudsperson to devise the new rules and procedures, but to make recommendations and follow these up to the extent necessary for their formulation and/or improvements.

Authority to Act

The Ombudsperson shall, from time to time, require information from the University or from anyone in the University exercising authority, therefore:

In order to fulfil the function of the office, the Ombudsperson shall have access to all official university files, records and information as required in accordance with the University's policy on Freedom of Information and Protection of Privacy. Requests for information from the Ombudsperson must be given priority by every employee of the University.

Responsibilities of the Ombudsperson

The Ombudsperson *shall*:

a) Accept and act upon reasonable requests for information, advice and counsel regarding matters falling within the mandate of the office;

b) With reasonable promptness, investigate all complaints directed to the Ombudsperson's Office regarding matters falling within the mandate of the office;

c) Forward recommendations regarding policy and procedure to the appropriate officials within the University in an expeditious manner;

d) Produce a statistical report each semester, as well as an annual report to the University community through the Ombudsperson Review Committee, and other such special reports as may be required from time to time by the Ombudsperson Review Committee;

e) Shall respect the need for confidentiality as much as possible; operate under standards of confidentiality;

f) Communicate clearly to a complainant the extent to which the Ombudsperson can respect a complainant's request for confidentiality.

Although authorized to function in the widest possible context and within a minimum of

constraints, the Ombudsperson *shall not:*

g) Act as the advocate of any party during the investigation of a complaint;

h) Initiate an investigation until all existing avenues for seeking redress have been exhausted;

i) Exercise such authority beyond the legal authority of the University, although recommendations may be made concerning the authority of the University or of its constituent parts;

j) Make University policy or replace established legislative or judicial procedures, although any or all of these may be investigated or questioned and such recommendations made as appropriate for their improvement and efficient functioning;

k) Release any information regarding personal and personnel records, except for situations as required by law.

Responsibilities of the University

The University shall:

a) Ensure the Office of the Ombudsperson is enabled to carry out its mandate and responsibilities without hindrance from any officer or authority of the University community;

b) Respond, through the Vice-President, Administration, to the annual report of the Ombudsperson and to any other such special report as may be required from time to time by the Ombudsperson Review Committee.

Operation of the Office

a) Files

(i) The Ombudsperson shall maintain suitable records of complaints, findings and recommendations and these shall be accessible only to the Ombudsperson and members of the staff of the Office of the Ombudsperson;

(ii) Each file and records will be maintained for a period of four years and one day from the date on which the Ombudsperson deems the case to be completed. At the end of the period of four years and one day, the files or records may be destroyed; however, no destruction of the file or record will take place while any

proceedings are pending in the University, the Courts or any outside tribunal and until after all rights of appeal are exhausted or times of appeal have expired;

b) While exceptions may be made by the Ombudsperson with respect to matters of major importance, the office will normally function in terms of first come, first served;

c) The Ombudsperson shall have unrestricted access to all University authorities.

Appendix B

Ryerson Polytechnic University

OMBUDSPERSON COMMITTEE

Terms of Reference

Mandate and objectives for the Ombudsperson's Committee are as follows:

a. To ensure the incumbency of the Office of the Ombudsperson by conducting the selection of the Ombudsperson and the Ombudsperson's performance evaluation.

b. To provide advice and guidance to the Ombudsperson as required and/or upon request.

c. To approve forward planning for the Office.

d. To approve the annual budget of the Office and monitor expenditures.

e. To ensure responsibility for broad dissemination of Ombudsperson's report.

Membership

The Committee is comprised of seven (7) representative as follows:

a. Two (2) representative appointed by the RYESAC executive

b. Two (2) representatives appointed by the CESAR executive

c. Three (3) representatives appointed by the Vice-President, Administration.

d. Ombudsperson is non-voting member of ex-officio.

Operation

The Committee will choose a chair at its first meeting of the academic year.

Regularly scheduled meetings may be held monthly and meetings may be scheduled at the call of the Chair. Meetings should be called at least twice a semester and once during the summer.

Persons may be invited to observe and/or participate in meetings; in-camera sessions may also be called.

The Committee will endeavour to operate by consensus, but any member present may require a vote on any matter under consideration.

The Committee periodically reviews its own terms of reference and those of the Ombudsperson. This will be done after the first year of operation.

The Committee respects the confidentiality of the Ombudsperson's casework and is not in receipt of confidential information from Office records that identifies individuals or groups of individuals.

Administrative Structure

The Office of the Ombudsperson will be managed by an Ombudsperson's Committee comprised of representatives from RYESAC, CESAR, and Ryerson. One Ryerson representative will be appointed as Vice-President, Administration's delegate and will be responsible for line reporting.

The Ombudsperson's annual report will be delivered to the President (RYESAC), President (CESAR), Vice-President, Administration (Ryerson), President (Ryerson), and the Board of Governors, to then be widely disseminated within the Ryerson community.

Appendix C

Table 1 - Breakdown of Caseload by Constituency

	July 1/97 - June 30/98	July 1/98 - June 30/99
Full-time Degree	210	241
Part-time Degree	14	18
Continuing Education	49	44
Special Students*	2	5
Miscellaneous**	27	19
TOTAL	302	327

* Students on Letter of Permission
** Alumni and Admissions

Table 2 - Breakdown of Caseload by Action Taken

	July 1/97 - June 30/98	July 1/98 - June 30/99
Information*	21	18
Advice**	199	213
Intervention***	82	96
TOTAL	302	327

* Providing information on policies and procedures
** Providing information and discussing possible options with the student
*** The Office taking action, with the student's permission, to assist in some way in the resolution of the student's concern.

Table 3 - Case Types

July 1, 1998 - June 30/99

	Information	Advice	Intervention
Admissions	3	7	6
Advanced Standing		5	1
Challenge Credits		2	1
Academic Appeals		57	20
Non-Academic Complaints		17	6
Late Withdrawals		4	
Prerequisites		3	
Re-Admission		25	9
Student Conduct		23	8
Residence	2	13	9
Library	2	6	2
Financial Aid		17	4
Fees	11	15	12
Transfer Credits		8	5
Accessibility		5	4
Term Work		6	9
TOTAL	18	213	96

THE UNIVERSITY'S RESPONSE TO THE OMBUDSPERSON'S SECOND ANNUAL REPORT, 1998/99

First, I want to recognize, with thanks, three initiatives of the University that were identified by the Ombudsperson for special acknowledgement:

- Ryerson's first graduate degree programs;
- President's meetings with students;
- Staffing final exams during a TTC strike.

We appreciate the spirit of collegiality that underlies the public identification of these activities for the community and sets the tone for the Report as a whole.

As the Report points out, however, "no one ever goes to an Ombudsperson's Office to say what a wonderful time they are having." (p.2). Nine issues are identified in the Report to illustrate some of the concerns raised over the past academic year. Each of these concerns will be discussed in the order in which they appear in the Report.

1. Fire Alarms
2. Access to Final Exams
3. Copyright and Ownership of Student Works
4. Returning Term Work
5. Clarity of Information
6. Residence Students Who Receive OSAP Loans
7. Publishing of Information
8. Long Distance Phone Rates
9. Group Work

1. **Fire Alarms**. A discussion paper on examination issues will be brought forward later this fall. A key component of this paper will be a series of steps to reduce the likelihood of disruption of the examination process through the use of fire alarms. There is no one measure that will resolve this problem. There are, however, a variety of initiatives including, but not limited to, the use of hall monitors in some areas; video surveillance in select locations; a sign campaign around exam sites; and the installation of special alarms in a number of key locations.

2. **Access to Final Exams**. Existing Ryerson policy confirms a student's right to view his or her final examination. This policy will be incorporated into the upcoming draft Academic Appeals policy. The policy will indicate that this access, if requested, must occur prior to designated dates each semester.

3. **Copyright and Ownership of Student Work.** The University policy on the ownership of student-produced work is very clear. Any difficulties encountered by students should be directed to the Chair of the teaching department who may consult with the Office of the Secretary of Academic Council for assistance in reaching a resolution.

4. **Returning Term Work.** Increasing concerns around confidentiality and the issue of copyright suggests that departments should review their internal procedures for the timely return of student work to ensure that the materials are returned in the most secure environment possible.

5. **Clarity of Information.** Food Services and Student Housing Services are changing the wording of student information to facilitate clarity and avoid misunderstandings. Under existing tax regulations, student meal plans are exempt from PST and GST provided that meals are from establishments located on the campus and operated by or on behalf of the educational institution over a specified period of time at a total non-refundable cost to the student. As a result, students are ineligible for meal plan refunds and our materials should clearly state this.

6. **Residence Students Who Receive OSAP Loans.** To facilitate payments from students who live in residence and are receiving OSAP, but have not yet received their loan for the winter term, the housing contract for 1999/2000 states that students who have applied for OSAP may defer their December housing payment by completing a deferral form before November 19, 1999. These forms are available in the Housing Office.

7. **Publishing of Information.** In the past it has been unclear to students that in order to continue to be eligible to receive OSAP, they must have a sixty percent course load in each term. This critical piece of information was not included in the OSAP Application Guide.

   As a result of the identification of this problem, the 1999/00 University Calendar includes a note that "a full time student is defined as a student registered in 60% or more of a full course load each term. At Ryerson, percentage of course loads are calculated based on the number of class and/or lab hours registered each term and not on a per course or other basis." (p. 605). This information also appears in the Student Guide, the Financial Aid web site, the RyeSAC 1999/00 Handbook and the OSAP Notice that is attached to all student loan documents. The Ministry has also modified its OSAP web site to indicate the OSAP policies do not permit course averaging.

8. **Long Distance Telephone Rates.** What appears to be a simple communication issue is anything but simple. Ryerson will provide students in Pitman Hall with information on long distance rates. The information, however, will not address

the fundamental concerns of students inasmuch as the rates are based on distances. Nor can the rate information be clarified by students through calls to the Bell operator.

The reason for this situation goes back to the early planning for Pitman Hall. In order to keep construction costs down, it was determined that through existing technology our business lines could be shared by the residence. In the days before competitive long distance rates, there were few problems with this approach.

In today's competitive environment, inexpensive long distance rates are the expectation. If one, however, compares the long distance rates currently charged to residence students and the basic monthly cost for telephone service as a package, most students come out ahead financially. For those students who may be quite reliant on long distance, however, this approach may well work to their financial disadvantage. Such students always have the option of calling collect or making their long distance calls from another venue.

9. **Group Work**. The recommendation for the development of guidelines for the application of the Student Code for Allegations of Academic Misconduct where more than one individual is alleged to be involved will be reviewed by the Secretary of Academic Council and the Registrar. There will be consultations undertaken on this topic with the University community during the information sessions on the Student Code. Any guidelines developed will be brought forward to Academic Council within the next eighteen months.

In closing, I wish to thank the Ombudsperson for identifying these concerns and bringing them to our attention. We believe that many of them have now been resolved. Others are still in the process of being addressed.

Linda Grayson
Vice President, Administration and Student Affairs

October 18, 1999
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