S.01-42

SIMON FRASER UNIVERSITY

Senate Committee on University Priorities

Memorandum

TO: Senate

FROM: John Waterhouse, SCUP Chair
Vice President, Academic

RE: Master of Business Administration (Management of Technology) Full Program Proposal

DATE: 17 May 2001

Attached is the Full Program Proposal for a Master of Business Administration (Management of Technology) from Dr. Ernie Love, Dean of Business Administration (pro tem).

The Senate Committee on University Priorities reviewed the Full Program Proposal at its April 11, 2001 extraordinary meeting. After extensive discussion, the Program Proposal was approved with the following amendments:

(1) that the Program Proposal highlight the distinct nature of the Master of Business Administration (Management of Technology) from other Masters programs currently offered by the Faculty of Business Administration particularly in the "Summary", and "Objectives and Principles" sections of the Proposal;
(2) that the Program Proposal be edited to ensure consistency between the program description and the appendices; and,
(3) that tuition fees be established at $20,000.

Once approved by Senate, the proposal is to be submitted to the Board of Governors.

Motion:

That Senate approves and recommends to the Board of Governors that the Full Program Proposal be forwarded to the DPRC Secretariat and the Ministry for new program approval.

Attachment.

c. E. Love
B. Reich

PROPOSAL FOR M.B.A. PROGRAM IN MANAGEMENT OF TECHNOLOGY

08 July	1998	Approved "in-principle" by Senate Committee on Academic Planning
23 July	1998	Approved by Faculty of Business Administration
23 March	1999	Received by Dean of Graduate Studies
21 June	1999	Reviewed by Assessment Committee for New Graduate Programs
January	2000	Commenced 1st Special Cohort of the MBA (MOT)
14 June	2000	Received revised version by Dean of Graduate Studies
11 August	2000	Reviewed by Assessment Committee for New Graduate Programs
22 September	2000	Sent revised version to five External Reviewers by Dean of Graduate Studies
03 November	2000	Received External Reviewers' reports (4) by Dean of Graduate Studies
10 November	2000	Sent External Reviewers' report to Business Administration by Dean of Graduate Studies
27 November	2000	Received Business Administration response to External Reviewers' reports by Dean of Graduate Studies
01 December	2000	Reviewed and approved by Assessment Committee for New Graduate Programs
January	2001	Commenced 2nd Special Cohort of the MBA (MOT)
19 February	2001	Reviewed and approved by Senate Graduate Studies Committee
11 April	2001	Reviewed and approved by Senate Committee on University Priorities

Full Program Proposal

May 14, 2001

A proposal for
a Masters of Business Administration in
Management of Technology

to be offered by the

Faculty of Business Administration,

Simon Fraser University

A Proposal for
A Masters of Business Administration in
Management of Technology

to be offered by the

Faculty of Business Administration, Simon Fraser University

Summary

The Faculty of Business Administration at Simon Fraser University is proposing a new Masters of Business Administration program, the MBA in Management of Technology. This industry-specific MBA has been designed to meet the unique needs of the high technology sector. The Program's courses and content focus on the issues associated with the management of technological change and innovation. The program will be offered at Simon Fraser University's Harbour Centre Campus.

Rationale:

The high-tech sector is growing rapidly and the demand for employees who combine a background in technology with a Master's in Business Administration is strong. There are other MBA programs offered within the province of British Columbia, but the MBA in Management of Technology (MOT) program is designed to serve the specific needs of the high-tech sector.

The MOT program addresses the broad issues surrounding the management of advanced technologies in all industries including innovative high-tech product development, information technology, biotechnology, advanced manufacturing, and service sector technologies. Although we expect to draw the majority of our students from high-tech companies, our program will also be of interest to employees in more traditional industries that have become increasingly reliant on technology.

The MOT program is consistent with SFU's mandate and responsibility to provide high quality graduate programs that advance the education of the citizens of BC and Canada. An MBA in the Management of Technology and its associated research programs will provide significant benefit to the BC and Canadian economies by providing the management training and the new knowledge critical to the continued rapid growth of the high-technology sector.

The MOT program provides an opportunity to support SFU's strong research orientation in an area of the economy that is undergoing rapid and profound change. The innovative design of the MBA in MOT ensures a tight integration between the program and the business community, facilitating collaboration between industry and faculty researchers. The program will also provide opportunities to combine research in natural sciences technology with research in the social sciences, which will lead to significant collateral benefits to local business and the BC economy as a whole.

Demand for the program

Claims for strong local demand arise from two considerations, one general and the other specific. First it seems clear that the local MBA market is under-supplied. One way of expressing demand for MBA education is that it is proportional to the lagged "consumption" of bachelors' degree graduates. Demand for spaces in MBA programs is likely to vary in proportion to the number of bachelors' graduates who entered the labour market three to four years previously.

The three-year lagged relationship between all bachelors' graduates and all MBA graduates in Canada was 3.55% in 19941. That is, 3.55% of the 1991 graduating undergraduate class received an MBA in 1994. This rate has increased steadily from 1987 when it was a little under 3%. Comparative data for the US is 8.01% in 1994 and 6.5% in 1987. Thus, in both countries the MBA participation rate is increasing but the Canadian rate is increasing at a slower rate and the rate itself is much lower.

Given this relationship between bachelors' degree graduates and MBA graduates, what is the likely demand for MBA spaces in British Columbia? Between 1992 and 1997 the British Columbia economy employed 35,500 university graduates per year on average[2]. Assuming that some of these are graduates of graduate programs and some are employed outside of the lower mainland, there was likely a pool of at least 30,000 new university graduates employed each year in the local area from 1992 to 1997. This pool represents the potential applicant pool for all MBA programs in BC and elsewhere. Conservatively, there appears to be a demand for about 1,000 MBA spaces per year (3.5% of 30,000). Obviously, the local supply is much lower. UBC supplies 100 spaces per year, SFU supplies 60 in the E-MBA program and has supplied 50 or so in the Specialist MBA program. The University of Victoria supplies approximately 50 spaces. Thus, the gap between local supply and local demand is quite large, possibly in the range of 650 or so per year. If past MBA participation rate trends continue, this demand will grow and if the Canadian rate begins to converge toward that of the US, demand will be much higher. The clear conclusion from these data must be that there is a very strong local demand for spaces in MBA programs.

More specifically, the local demand for the proposed MOT program also seems strong. Based on a number of discussions with people in the high-tech sector, there is indeed a very significant demand for an MBA program in the Management of Technology. The same conclusion can be drawn based on feedback from the Faculty of Business Administration Advisory Board and from other contacts in the business community.

Current Evidence: In July 1999, the Faculty obtained permission from the Board of Governors to operate the MOT MBA as a special cohort of the EMBA for a period of two years. The purpose of this request was to facilitate the start-up of the MOT program in January 2000 prior to having completed the final approval process through to DPRC.

In January 2000 we did commence the 1st cohort of the program with 31 students. Of these, 20 are full-time students and 11 students are on enrolled on a part-time basis. We were very pleased by the strong interest in the program, particularly as we did not have that much time to advertise the program.

In January of 2001 we commenced our 2nd cohort of the MOT MBA program, with 39 students enrolled in total; 26 full-time and 13 part–time. The program is well balanced in terms of type of students. Approximately 50% of our students have Engineering/Science backgrounds and 50% have Business or other Degrees. All have experience working in high tech.

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[1] Data were assembled from Statistics Canada and the US Department of Education, National Center for Education Statistics.

[2] Robert Allen, "Standing Room Only: The Case for Expanding BC's Universities" Working Paper, Canadian Centre for Policy Alternatives, 1998.

MOT Business Council

In the development of the MOT program, we formed a Business Council to insure ongoing relevance of the curriculum to the needs of the high-tech sector. We have nine founding members of this Business Council

Andersen Consulting
BCAA
BC Hydro
Electronic Arts Inc.
ICBC
Seagate Software
Steeves & Associates
Telus
Westech Information Systems Inc.

This Council has proven to be very valuable in the short time since its formation. Monthly the members have met to discuss the program development and provide advise on the management needs of the high-technology sector of BC.

Over the Fall'99 semester in preparation for program launch, the faculty held a series of curriculum review sessions. The chairman of the MOT Business Council (Don Calder) attended each of these meetings and provided a very important sounding board on curriculum issues.

Council members contribute an annual subscription fee of $25,000 to the program. Approximately 1/3 of these funds go directly to the students in order to fund their final projects. The final project is integral to the program design. Working directly with Council firms, we can ensure that the projects are grounded in critical issues facing the high-tech sector. Of the remaining funds, 1/3 is directed at student support such as scholarships/fellowships etc., and the remaining 1/3 is to support faculty research in high-technology.

In the second year of operation, we have 14 members of the Business Council. The new members of the Council are PMC-Sierra, Xantrex Technology, Pivotal, Sierra Wireless, and TAP Ventures. This support from our local high tech companies shows strong demand for this program.

Program Delivery

The SFU MBA in Management of Technology is being delivered in our new 7th Floor facilities. This facility has state-of-the art multi-media connectivity designed specifically with the MOT program in mind. This is an intensive program appealing to students who desire a high level of both personal as well as electronic interaction in a traditional university setting.

While the majority of the students are full-time, the program has been designed such that local part-time students can participate fully in the program. Full-time students can complete the 9 course requirement over two semesters, Spring and Summer. They then must complete the industry-based project during the Fall semester.

For the part-time students, they attend two courses each semester with the full-time cohort. This allows an integration of part-time students with the full-time students and allows the program to appeal directly to candidates from the local high-technology sector, for which leaving their current employment is not an option. The part-time students can complete the program over 5 semesters.

Being able to deliver this program to both full-time and part-time students concurrently is proving to be very effective. It allows us to continue to build our national presence in MOT via the full-time model. At the same time, we can directly provide training to the local market when stopping work for 6 months is not a realistic option. By bringing full-time and part-time students together, we of course strengthen our relationship with local industry in terms of providing management skills to the high-technology sector.

The program will be self-supporting, without university subsidy.

Objectives and Principles

The objective of the program is to address the particular needs of employees in the high-technology sector and employers facing significant challenges due to technological change. The MBA(MOT) degree will give graduates a solid grounding in the theories and disciplines of management particularly focused on topics relevant to organizations that rely on advanced technology to deliver products and services. The program will enable graduates to make and implement operational and strategic decisions within technology-based organizations.

The specific objectives of the MOT MBA are:

- To meet the need for management education in the field of technology
- To focus research on business issues relevant to the technology sector
- To provide students with an opportunity to combine relevant education with first hand practical experience in the high-technology business sector

Two formats (accelerated full-time and part-time) for delivery of the program were adopted because it was recognized that many students would be currently employed and would not be able to leave their companies for an extended period.

To appeal to students seeking employment in high-tech businesses the program incorporates a number of innovative features including an industry-based project, and a series of executive workshops.

Resources Required

Faculty: Many of the courses in this program will be taught by existing SFU faculty. As noted in the covering letter, the MBA (MOT) represents a new program for the Faculty of Business. New courses have been designed (e.g. Managing Technological Innovation, Supply Chain Management) and traditional MBA courses (e.g. Marketing, Finance) have been refocused towards the high tech sector. Because of this focus, we have recently been successful (in what is recognized as a highly competitive environment) in hiring a new junior Faculty member in MOT. Is our intention to continue the search for second faculty member specializing in the management of technology. This may be at either the junior or at the senior level.

Space: Space for faculty and administrative offices and classrooms has been created on the 7th floor of Harbour Centre.

Library Resources: It is anticipated that no additional library resources will be required for any of the courses. A full assessment of Library needs is attached as Appendix D

Degree

The degree awarded will be a Master of Business Administration (Management of Technology) and will be denoted as MBA(MOT) in short form.

Program Curriculum

The academic portion of the program consists of 36 credits made up of nine courses totalling 32 credits and a written project worth 4 credits. Additional program features include an opening workshop, a 4-day conference, an executive speaker's series, and a closing workshop.

Preparatory course-work will depend on the pathway to admission. A student who has completed a degree in Business within the last five years may enrol directly into the MBA(MOT) program. A student who is admitted after successfully completing the Graduate Diploma in Business Administration[3] can enrol directly into the program.

Individuals without the necessary Business background, may elect to take a set of four Foundation Courses delivered in an intensive , face-to-face format at the 7th floor MOT facility from September to January The courses are weekend and evening based such that they can accommodate both full-time and part-time applicants.

The Course Progression and Timetable is attached as Appendix A

Brief course outlines for the MOT program are listed in Appendix B.

Current calendar entries for Undergraduate and Graduate programs, Faculty of Business Administration are in Appendix C.

Detailed Course Outlines and New Graduate Course Proposals and Approvals are in Appendix D.

Library Resource list is in Appendix E.

Brochures for the Programs are in Appendix F.

Admissions

Admission into the program will be consistent with current practices of the SFU graduate programs.

Advancement

Continuation in and graduation from the program will be consistent with existing regulations and current practices of the SFU graduate programs.

Timetable

Following satisfactory preparatory work (4 months in the case of the Foundation Courses taken September through January, 1 year in the case of the On-line GDBA), the MOT program would normally be completed within ten months. The planned program start date for each cohort into the MOT coursework is February of each year.

Tuition fees

Subject to final approval, tuition for the MBA(MOT) will be $20,000 and will include the cost of all textbooks and teaching materials. The tuition does not include recreation, activity or other fees levied by the university. All teaching, administrative, publicity and space costs will be covered by tuition revenue.

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[3] The Graduate Diploma in Business Administration is a thirty credit Diploma offered by distance over the course of a year by SFU and contains the material typically taught in the preparatory year of an MBA program. It is a stand-alone program that can and will be often taken as a terminal designation. This program has previously been approved by SFU Senate.

Master of Business Administration (Management of Technology)

Documentation Index

Appendix A:	Course Progression and Timeline
Appendix B:	Brief Course Outlines
Appendix C:	Calendar Descriptions (Available by request from Bobbie Grant, Secretariat Services)
Appendix D:	Course Proposal Forms (Full Course Outlines available by request from Bobbie Grant, Secretariat Services)
Appendix E:	Library Resources
Appendix F:	Program Brochures (Program Brochures are available to interested Senators from Dr. Tom Brown, Executive Director, Management of Business Administration (MOT)
Appendix G:	Reports of External Reviewers of Program

Appendix A - Course Progression and Timeline

PRE-MOT Preparation

Undergraduate Business Degree
2 years work experience in Technology sector

Undergraduate Technical Degree
GDBA completion
2 years work experience in Technology sector

Undergraduate Technical Degree
Foundation Courses *
2 years work experience in Technology sector

*The Foundation Courses in Business consist of 4 GDBA courses delivered in a face-to-face format on the 7th Floor facilities, Harbour Centre, during September to January.

- Economics (BUS 552)
- Accounting (BUS 550/551)
- Finance (BUS 555),
- Marketing (BUS 556)

For the full GDBA Diploma Designation, students are required to take courses in Quantitative Methods/MIS[a] (BUS 553/554) as well as Organizational Theory[b] (BUS 557).

[a] Students with a technical degree have strong backgrounds in Quantitative Methods/MIS and hence are exempt from this course.

[b] Considerable time is spend within the MOT program on dealing with the management of knowledge workers the technology sector. With this in-depth coverage, the introductory BUS 557 course is not a necessary prerequisite.

Appendix A - Course Progression and Timeline (Cont)

Topics:
Negotiation and Conflict Management
Ethics and Corporate Responsibilities
Managing in a Diverse Work Place
Personal Career Planning

Opening Workshop

Term 1

Managing Technological Innovation
(Senior MOT Faculty/ Richard Smith)

Strategic Management
((Faculty - Aidan Vining)

Marketing Technology- Based Products and Services
(Faculty - Colleen Collins-Dodd)

Strategic Use of Information And Knowledge
(Faculty - Blaize Reich)

Conference

Term 2

Supply Chain Management
(Faculty - Ernie Love)

Organizing, Motivating and Leading
(Faculty – Gervase Bushe)

Project Management
(Faculty - Bill Wedley

Financing the Organization
(Faculty - John Campbell)

Organizational Focus and Control
(Faculty – Kirk Vandezande)

Applied Project
(Faculty - Ernie Love)

Final Workshop

February - July (6 months)

February - November (10 months)

Appendix B

BUS750 Managing Technological Innovation (4 Credits) - This course examines successful product and process innovations in industry, as well as the effective organization and management of the technological change process in new ventures, multi-divisional and multinational enterprises.

BUS752 Strategic Management of Technology-Based Firms (4 Credits) - This course deals with how technology-based firms develop and implement strategies to create competitive advantage. The module treats strategy at two levels of analysis: (a) the overall strategy of the firm and (b) the technology strategy of the firm.

BUS754 Marketing Technology-Based Products and Services (4 Credits) - What differentiates high-tech markets from more traditional ones is the environment -- shrinking product life cycles, rapid changes in information and knowledge and great uncertainty about competitors. This course is designed to teach strategies for developing and executing marketing strategies in technology-intensive markets.

BUS756 Strategic Use of Information and Knowledge (4 Credits) – This course will demonstrate, though cases and discussion, how information can be used to support decision making, monitor operations, and enable global communications. Topics will include knowledge management and information technology to support a learning organization.

BUS758 Supply Chain Management (4 Credits) - This course demonstrates how strategic competitive advantages can be gained through supply chain management – the processes of logistics, production, delivery, and after sales service. Concepts such as flexible manufacturing, just in time inventories and service quality will be examined.

BUS760 Organizing, Motivating, and Leading the Technology-Driven Enterprise (4 Credits) - Technology-driven organizations are particularly dependent upon human resources. Their employees are intelligent, highly skilled, and very mobile. This course discusses the human resource structures and strategies that technology-based firms use to achieve growth of both the firm and the individual.

BUS762 Project Management (4 Credits) – In high technology firms, projects are a way of life. The introduction of a new product or service, the redesign of an information system, the opening of a new warehouse are all examples of projects that the technology-driven manager may encounter. This course demonstrates how complexity can be managed in a manner that increases the probability of project success. As a course assignment, students develop their own plan for the project/internship phase of the program.

BUS764 Financing the Organization (2 Credits) - A basic understanding of the sources of capital, how to allocate it and how to regenerate it is necessary for technology managers This course surveys the sources of venture capital, initial public offerings, mergers, and debt capital. It also concentrates on net present values, internal rates of return, and other tools for capital budgeting and valuation.

BUS766 Organizational Focus, and Control through Financial Management (2 Credits) - Success is often tempered by the constraint of money. Project budgeting, cash flow projection, and contingency planning are tools that help keep the flow of funds in balance. This course looks at how the technology manager can influence the flow of funds through numerous measures such as leverage, equity injections, credit policies, dividends, and taxes.

BUS774 Special Topics (4 Credits)

BUS776 Special Topics (4 credits)

BUS778 Directed Studies in Management of Technology (4 credits) Individual study with a faculty member. A course outline must be approved by the graduate program committee.

BUS780 Applied Project (4 Credits) Students will undertake a strategic business analysis and write an extended essay jointly supervised by an SFU faculty member and an industry partner. The Management of Technology program director and a faculty member will negotiate the purpose, content and deliverables of each project with the student and the sponsoring organization.

Appendix D

Simon Fraser University

New Graduate Course Proposal Form

Department: Faculty of Business Administration Course Number: Bus 750

Course Title: Managing Technological Innovation

Course Description for Calendar *(append a course outline)*:
(See Attached)

Credit Hours: 4 Vector: 4-0-0 Prerequisites (if any): GDBA Foundation Courses or equivalent

Estimated Enrolment: 35 When the course will first be offered: Feb 2000

Frequency of course offering: Annually

Justification:
One of 10 courses constituting the Management of Technology MBA program

Resources:

Faculty member(s) who will normally teach this course;
append information about their competency to teach the course: Richard Smith of the Department of Communications/Faculty of Applied Sciences is highly competent in this area and has indicated a willingness to teach this course. An appropriate arrangement for the use of Smith on this course will be worked out between the Department of Communications (Brian Lewis) and Dean of FBA (John Waterhouse). In addition, it is our intention to hire an MOT faculty with skills that are appropriate for this course along with other courses in the sequence.

Number of additional faculty members required in order to offer this course: 0

Additional space required in order to offer this course *(append details)*: Program to be taught in the new TEAM Centre (7th Floor Harbour Centre.

Additional specialized equipment required in order to offer this course *(append details)*: None – students are required to supply their own notebook computer

Additional Library resources required *(append details)*: annually: $ _____ one-time: $ _____

Any other resource implications of offering this course *(append details)*: _____

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Approvals:

Departmental Graduate Program Committee: C J Lee Date: June 12/2000

Faculty Graduate Studies Committee: C J Lee Date: June 12/2000

Faculty: C J Lee Date: June 12/2000

Following approval by the Faculty, this form and all relevant documentation should be forwarded to the Assistant Director - Graduate Studies in the Office of the Registrar for consideration by the Senate Graduate Studies Committee, the Senate Committee on Academic Planning and Senate.

Simon Fraser University

New Graduate Course Proposal Form

Department: Faculty of Business Administration Course Number: Bus 752

Course Title: Strategic Management of Technology-Based Firms

Course Description for Calendar *(append a course outline)*:
(See Attached)

Credit Hours: 4 Vector: 4-0-0 Prerequisites (if any): GDBA Foundation Courses or equivalent

Estimated Enrolment: 35 When the course will first be offered: Feb 2000

Frequency of course offering: Annually

Justification:
One of 10 courses constituting the Management of Technology MBA program

Resources:

Faculty member(s) who will normally teach this course;
append information about their competency to teach the course: Aidan Vining, Ed Bukszar

Number of additional faculty members required in order to offer this course: 0

Additional space required in order to offer this course *(append details)*: Program to be taught in the new TEAM Centre (7th Floor Harbour Centre)

Additional specialized equipment required in order to offer this course *(append details)*: None – students are required to supply their own notebook computer

Additional Library resources required *(append details)*: annually: $ _____ one-time: $ _____

Any other resource implications of offering this course *(append details)*: _____

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Approvals:

Departmental Graduate Program Committee: C F Lee Date: June 12/2000

Faculty Graduate Studies Committee: C F Lee Date: June 12/2000

Faculty: C F Lee Date: June 12/2000

Following approval by the Faculty, this form and all relevant documentation should be forwarded to the Assistant Director - Graduate Studies in the Office of the Registrar for consideration by the Senate Graduate Studies Committee, the Senate Committee on Academic Planning and Senate.

Simon Fraser University

New Graduate Course Proposal Form

Department: Faculty of Business Administration Course Number: Bus 754

Course Title: Marketing Technology-Based Products and Services

Course Description for Calendar *(append a course outline)*:
(See Attached)

Credit Hours: 4 Vector: 4-0-0 Prerequisites (if any): GDBA Foundations Courses or equivalent

Estimated Enrolment: 35 When the course will first be offered: Feb 2000

Frequency of course offering: Annually

Justification:
One of 10 courses constituting the Management of Technology MBA program

Resources:

Faculty member(s) who will normally teach this course;
append information about their competency to teach the course: Colleen Collin-Dodds, DJ Sandhu, June Francis

Number of additional faculty members required in order to offer this course: 0

Additional space required in order to offer this course *(append details)*: Program to be taught in the new TEAM Centre (7th Floor Harbour Centre).

Additional specialized equipment required in order to offer this course *(append details)*: None – students are required to supply their own notebook computer

Additional Library resources required *(append details)*: annually: $ _____ one-time: $ _____

Any other resource implications of offering this course *(append details)*: _____

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Approvals:

Departmental Graduate Program Committee: C. S. Love Date: June 12/2000

Faculty Graduate Studies Committee: C. S. Love Date: June 12/2000

Faculty: C. S. Love Date: June 12/2000

Following approval by the Faculty, this form and all relevant documentation should be forwarded to the Assistant Director - Graduate Studies in the Office of the Registrar for consideration by the Senate Graduate Studies Committee, the Senate Committee on Academic Planning and Senate.

Simon Fraser University

New Graduate Course Proposal Form

Department: Faculty of Business Administration Course Number: Bus 756

Course Title: Strategic Use of Information and Knowledge

Course Description for Calendar *(append a course outline)*:
(See Attached)

Credit Hours: 4 Vector: 4-0-0 Prerequisites (if any): GDBA Foundation Courses or equivalent

Estimated Enrolment: 35 When the course will first be offered: Feb 2000

Frequency of course offering: Annually

Justification:
One of 10 courses constituting the Management of Technology MBA program

Resources:

Faculty member(s) who will normally teach this course;
append information about their competency to teach the course: Michael Brydon, Blaize Reich, Drew Parker

Number of additional faculty members required in order to offer this course: 0

Additional space required in order to offer this course *(append details)*: Program to be taught in the new TEAM Centre (7th Floor Harbour Centre)

Additional specialized equipment required in order to offer this course *(append details)*: None – students are required to supply their own notebook computer

Additional Library resources required *(append details)*: annually: $ _____ one-time: $ _____

Any other resource implications of offering this course *(append details)*: _____

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Approvals:

Departmental Graduate Program Committee: [signature] Date: June 12/2000

Faculty Graduate Studies Committee: [signature] Date: Jun 12/2000

Faculty: [signature] Date: June 12/2000

Following approval by the Faculty, this form and all relevant documentation should be forwarded to the Assistant Director - Graduate Studies in the Office of the Registrar for consideration by the Senate Graduate Studies Committee, the Senate Committee on Academic Planning and Senate.

Simon Fraser University

New Graduate Course Proposal Form

Department: Faculty of Business Administration Course Number: Bus 758

Course Title: Supply Chain Management

Course Description for Calendar *(append a course outline)*:
(See Attached)

Credit Hours: 4 Vector: 4-0-0 Prerequisites (if any): GDBA Foundation Courses or equivalent

Estimated Enrolment: 35 When the course will first be offered: May 2000

Frequency of course offering: Annually

Justification:
One of 10 courses constituting the Management of Technology MBA program

Resources:

Faculty member(s) who will normally teach this course;
append information about their competency to teach the course: Ernie Love, Bill Wedley

Number of additional faculty members required in order to offer this course: 0

Additional space required in order to offer this course *(append details)*: Program to be taught in the new TEAM Centre (7th Floor Harbour Centre).

Additional specialized equipment required in order to offer this course *(append details)*: None – students are required to supply their own notebook computer

Additional Library resources required *(append details)*: annually: $ _____ one-time: $ _____

Any other resource implications of offering this course *(append details)*: _____

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Approvals:

Departmental Graduate Program Committee: C. J. Love Date: June 12/2000

Faculty Graduate Studies Committee: C. J. Love Date: June 12/2000

Faculty: C. J. Love Date: June 12/2000

Following approval by the Faculty, this form and all relevant documentation should be forwarded to the Assistant Director - Graduate Studies in the Office of the Registrar for consideration by the Senate Graduate Studies Committee, the Senate Committee on Academic Planning and Senate.

Simon Fraser University

New Graduate Course Proposal Form

Department: Faculty of Business Administration Course Number: Bus 760

Course Title: Organizing, Motivating and Leading the Technology-Driven Enterprise

Course Description for Calendar *(append a course outline)*:
(See Attached)

Credit Hours: 4 Vector: 4-0-0 Prerequisites (if any): GDBA Foundation Courses or equivalent

Estimated Enrolment: 35 When the course will first be offered: May 2001

Frequency of course offering: Annually

Justification:

One of 10 courses constituting the Management of Technology MBA program

Resources:

Faculty member(s) who will normally teach this course;
append information about their competency to teach the course:, Gervase Bushe, Carolyne Egri, Gary Waggenheim

Number of additional faculty members required in order to offer this course: 0

Additional space required in order to offer this course *(append details)*: Program to be taught in the new TEAM Centre (7th Floor Harbour Centre)

Additional specialized equipment required in order to offer this course *(append details)*: None – students are required to supply their own notebook computer

Additional Library resources required *(append details)*: annually: $ 0 one-time: $

Any other resource implications of offering this course *(append details)*:

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Approvals:

Departmental Graduate Program Committee: C F Love Date: June 12/2000

Faculty Graduate Studies Committee: C F Love Date: June 12/2000

Faculty: C F Love Date: June 12/2000

Following approval by the Faculty, this form and all relevant documentation should be forwarded to the Assistant Director - Graduate Studies in the Office of the Registrar for consideration by the Senate Graduate Studies Committee, the Senate Committee on Academic Planning and Senate.

17.

Simon Fraser University

New Graduate Course Proposal Form

Department: Faculty of Business Administration Course Number: Bus 762

Course Title: Project Management

Course Description for Calendar *(append a course outline)*:
(See Attached)

Credit Hours: 4 Vector: 4-0-0 Prerequisites (if any): GDBA or equivalent

Estimated Enrolment: 35 When the course will first be offered: May 2000

Frequency of course offering: Annually

Justification:
One of 10 courses constituting the Management of Technology MBA program

Resources:

Faculty member(s) who will normally teach this course;
append information about their competency to teach the course: Bill Wedley, Ernie Love

Number of additional faculty members required in order to offer this course: 0

Additional space required in order to offer this course *(append details)*: Program to be taught in the new TEAM Centre (7th Floor Harbour Centre) currently under renovation.

Additional specialized equipment required in order to offer this course *(append details)*: None – students are required to supply their own notebook computer

Additional Library resources required *(append details)*: annually: $ _____ one-time: $ _____

Any other resource implications of offering this course *(append details)*: _____

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Approvals:

Departmental Graduate Program Committee: [signature] Date: Mar 23/99

Faculty Graduate Studies Committee: [signature] Date: Mar 23/99

Faculty: [signature] Date: Mar. 23/99.

Following approval by the Faculty, this form and all relevant documentation should be forwarded to the Assistant Director - Graduate Studies in the Office of the Registrar for consideration by the Senate Graduate Studies Committee, the Senate Committee on Academic Planning and Senate.

Simon Fraser University

New Graduate Course Proposal Form

Department: Faculty of Business Administration Course Number: Bus 764

Course Title: Financing the Organization

Course Description for Calendar *(append a course outline)*:
(See Attached)

Credit Hours: 2 Vector: 2-0-0 Prerequisites (if any): GDBA or equivalent

Estimated Enrolment: 35 When the course will first be offered: May 2000

Frequency of course offering: Annually

Justification:
One of 10 courses constituting the Management of Technology MBA program

Resources:

Faculty member(s) who will normally teach this course;
append information about their competency to teach the course: Kirk Vandezande, George Blazenko

Number of additional faculty members required in order to offer this course: 0

Additional space required in order to offer this course *(append details)*: Program to be taught in the new TEAM Centre (7th Floor Harbour Centre) currently under renovation.

Additional specialized equipment required in order to offer this course *(append details)*: None – students are required to supply their own notebook computer

Additional Library resources required *(append details)*: annually: $ _____ one-time: $ _____

Any other resource implications of offering this course *(append details)*: _____

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Approvals:

Departmental Graduate Program Committee: _____ Date: June 12/2000

Faculty Graduate Studies Committee: _____ Date: June 12/2000

Faculty: _____ Date: June 12/2000

Following approval by the Faculty, this form and all relevant documentation should be forwarded to the Assistant Director - Graduate Studies in the Office of the Registrar for consideration by the Senate Graduate Studies Committee, the Senate Committee on Academic Planning and Senate.

Simon Fraser University

New Graduate Course Proposal Form

Department: Faculty of Business Administration Course Number: Bus 766

Course Title: Organizational Focus and Control Through Financial Management

Course Description for Calendar *(append a course outline)*:
(See Attached)

Credit Hours: 2 Vector: 2-0-0 Prerequisites (if any): GDBA Foundation Courses or equivalent

Estimated Enrolment: 35 When the course will first be offered: June 2000

Frequency of course offering: Annually

Justification:
One of 10 courses constituting the Management of Technology MBA program

Resources:

Faculty member(s) who will normally teach this course;
append information about their competency to teach the course: John Campbell, Peter Klein

Number of additional faculty members required in order to offer this course: 0

Additional space required in order to offer this course *(append details)*: Program to be taught in the new TEAM Centre (7th Floor Harbour Centre).

Additional specialized equipment required in order to offer this course *(append details)*: None – students are required to supply their own notebook computer

Additional Library resources required *(append details)*: annually: $ _____ one-time: $ _____

Any other resource implications of offering this course *(append details)*: _____

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Approvals:

Departmental Graduate Program Committee: C. S. Tore Date: June 12/2000

Faculty Graduate Studies Committee: C. S. Tore Date: June 12/2000

Faculty: C. S. Tore Date: June 12/2000

Following approval by the Faculty, this form and all relevant documentation should be forwarded to the Assistant Director - Graduate Studies in the Office of the Registrar for consideration by the Senate Graduate Studies Committee, the Senate Committee on Academic Planning and Senate.

Simon Fraser University

New Graduate Course Proposal Form

Department: Faculty of Business Administration Course Number: Bus 780

Course Title: The Final Project

Course Description for Calendar *(append a course outline)*:
(See Attached)

Credit Hours: 4 Vector: 0-0-4 Prerequisites (if any): GDBA Foundation Courses or equivalent

Estimated Enrolment: 35 When the course will first be offered: May 2001

Frequency of course offering: Annually

Justification:
One of 10 courses constituting the Management of Technology MBA program

Resources:

Faculty member(s) who will normally teach this course;
append information about their competency to teach the course: Ernie Love, Aidan Vining, Ed Bukszar

Number of additional faculty members required in order to offer this course: 0

Additional space required in order to offer this course *(append details)*: Program to be taught in the new TEAM Centre (7th Floor Harbour Centre)

Additional specialized equipment required in order to offer this course *(append details)*: None – students are required to supply their own notebook computer

Additional Library resources required *(append details)*: annually: $ _____ one-time: $ _____

Any other resource implications of offering this course *(append details)*: _____

If additional resources are required to offer this course, the department proposing the course should be prepared to provide information on the source(s) of those additional resources.

Approvals:

Departmental Graduate Program Committee: E J Love Date: June 16/2000

Faculty Graduate Studies Committee: E J Love Date: June 16/2000

Faculty: E J Love Date: June 16/2000

Following approval by the Faculty, this form and all relevant documentation should be forwarded to the Assistant Director - Graduate Studies in the Office of the Registrar for consideration by the Senate Graduate Studies Committee, the Senate Committee on Academic Planning and Senate.

Appendix E: Library Resources for MOT MBA

BUS750 Managing Technological Innovation

Texts required will be supplied to the students as part of tuition. In several courses, a variety of Cases will be used. These will be included as part of a Course Pack for class. In addition, some courses have indicated special articles from journals which SFU currently does not carry at either Bennett or Belzberg. Since this seems very small in number, these articles will also be included in the course pack for the particular class.

Texts for Course (to be purchased)

1. Leonard-Barton, D. (1995). The Wellsprings of Knowledge. Boston, Harvard Business School Press.
   in Bennett
2. Tidd, J., J. Bessant, et al. (1997). Managing Innovation: Integrating Technological, Market and Organizational Change. New York, Wiley.
   in Bennett

Journals/Magazines

Administrative Science Quarterly :	in Bennett
Journal of Product Innovation Management:	in Belzberg Library.
Journal of Engineering Technology Review	available from Elsevier Publishing. Articles needed from this source will be purchased in Course Pack form for the class
California Management Review	in Bennett
Harvard Business Review	in Bennett
IEEE Transactions on Engineering Management	indexed and available under ABI
Research Policy	available from Elsevier Publishing. Articles needed from this source will be purchased in Course Pack form for the class
IEEE Engineering Management Review	available on interlibrary from UBC
Information Week	available on internet: http://www.informationweek.com
Datamation	now online http://www.datamation.com
Telecommunications	is currently on order at Bennett

BUS752 Strategic Management of Technology-Based Firms

Texts for Course (to be purchased)

Robert M. Grant, *Contemporary Strategy Analysis* (Cambridge, MA), Basil Blackwell, 1998 (3rd Ed)
in Bennett

Robert A. Burgelman, Modesto A. Maidique and Steven C. Wheelwright,
Strategic Management of Technology and Innovation (Chicago, IL) Irwin, 1996 (2nd Ed.)
in Bennett

Journals/Magazines

Academy of Management Executive	available through ABI
Journal of Product Innovation Management:	in Belzberg Library.
Research Policy	available from Elsevier Publishing. Articles needed from this source will be purchased in Course Pack form for the class
Public Administration Review	in Bennett
Long Range Planning	in Bennett

Cases
cases used will be purchased in Course Pack from for the class

BUS754 Marketing Technology-Based Products and Services

Texts for Course (to be purchased)
Design and Marketing of New Products by Glen Urban and John Hauser (Prentice-Hall 1994)
in Bennett
Information Rules by Carl Shapiro and Hal Varian (Harvard Business School Press 1999)
in Bennett
Inside the Tornado, Crossing the Chasm by Geoffrey Moore
in Bennett

Journals/Magazines

Harvard Business Review,	in Bennett
Journal of Marketing,	in Bennett
Journal of Marketing Research,	in Bennett
Industrial Marketing Management,	in Bennett
International Journal of Technology Management	in ABI citation . Articles needed from this source will be purchased in Course Pack form for the class

Cases:

Harvard Business School Publications	Cases needed from this source will be purchased in Course Pack form for the class

BUS756 Strategic Use of Information and Knowledge

Texts for Course (to be purchased)
Martin deHayes, Hoffer and Perkins "Managing Information Technology", 3rd edition, Prentice Hall, 1999

Journals/Magazines
Articles are from Harvard Business Review (HBR), and Sloan Management Review (SMR) . Both journals in Library but Cases will be purchased as part of a course Pack.

Harvard Business School Publications	Cases needed from this source will be purchased in Course Pack form for the class
Sloan Management Review	Cases needed from this source will be purchased in Course Pack form for the class

BUS758 Supply Chain Management

Text for Course (to be purchased)
Operations Management, Strategy and Analysis, 5th Edition, Lee J. Krajewski and Larry P. Ritzman, Don Mills, Ontario, Addison Wesley, 1999.

Journals/Magazines

Harvard Business School Publications	Cases needed from this source will be purchased in Course Pack form for the class
Sloan Management Review	Cases needed form this source will be purchased in Course Pack form for the class
Interfaces	in Bennett
Journal of the Operational Research Society	in Bennett

BUS760 Organizing, Motivating, and Leading the Technology-Driven Enterprise

Text for Course (to be purchased)

Daft, R.L. Organization Theory and Design (Sixth Edition) South-Western College Publishing: 1998.

Supplemental readings from:
James M. Kouzes and Barry M. Posner: The Leadership Challenge - How to get extraordinary things done in organizations. (Jossey Bass, 1991).
in Bennett
Jeffrey Pfeffer: Competitive Advantage Through People: Unleashing the Power of the Work Force (Boston, Harvard Business School Press, 1994),
in Bennett
Jeffrey Pfeffer: The Human Equation: Building Profits by Putting People First (Boston, Harvard Business School Press, 1998).
in Bennett

BUS762 Project Management

Text for Course (to be purchased)
Managing Business and Engineering Projects: Concepts and Implementation, John M. Nicholas, Prentice Hall Inc. 1990, ISBN: 0-13-551854-7

Supplemental readings from:
Joseph W. Weiss, Robert K. Wysocki , *5-Phase Project Management*,

ISBN: 0-201-56316-9
Publisher: Harper-Collins
Format: paperback 121p
Date Published: 1992 Price: $ 21.00 USD

Paul C. Dinsmore , *The AMA Handbook of Project Management*

ISBN: 0-8144-0106-6
Publisher: Amacom Books, A Division of AMA
Format: hardcover 489p
Date Published: 1993 Price: $ 85.00 USD

John Mulvaney , *Analysis Bar Charting*

ISBN: 77-670112
Publisher: Management Planning & Control Systems
Format: paperback 100p
Date Published: 1980 Price: $ 10.00 USD

Eliyahu M. Goldratt , *Critical Chain*

ISBN: 0-88427-153-6
Publisher: North River Press
Format: paperback 246p
Date Published: 1997 Price: $ 19.95 USD

Deborah S. Kezsbom, Donald L. Schilling, Katherine A. Edward, *Dynamic Project Management*

ISBN: 0-471-85248-1
Publisher: John Wiley & Sons, Inc.
Format: hardcover 368p
Date Published: 1989 Price: $ 89.95 USD

Robert K. Wysocki, Robert Beck, Jr., David B. Crane, *Effective Project Management*

ISBN: 0-471-11521-5

Publisher: John Wiley & Sons, Inc.
Format: paperback 352p
Date Published: 1995 Price: $ 44.99 USD

The PMI Standards Committee, *Guide to the Project Management Body of Knowledge (PMBOK Guide), A: Paperback*

ISBN: 1-880410-12-5
Publisher: Project Management Institute
Format: paperback 176p
Date Published: 1996 Price: $ 32.95 USD

Trevor L. Young, *The Handbook of Project Management*

ISBN: 0-7494-2843-0
Publisher: Kogan Page U.S.
Format: hardcover 256p
Date Published: 1998 Price: $ 30.00

Thomas C. Belanger, *How to Plan Any Project*

ISBN: 0-9631465-1-3
Publisher: Sterling Planning Group
Format: paperback 224p
Date Published: 1995 Price: $ 29.95 Companion text

Harold Kerzner, *In Search of Excellence in Project Management*

ISBN: 0-47129311-3
Publisher: John Wiley & Sons, Inc.
Format: hardcover 288p
Date Published: 1998 Price: $ 29.95 USD

Michael S. Dobson, *The Juggler's Guide to Managing Multiple Projects*

ISBN: 1-880410-65-6
Publisher: Project Management Institute
Format: paperback 220p
Date Published: 1999 Price: $ 32.95 USD

Russell D. Archibald, *Managing High-Technology Programs and Projects*

ISBN: 0-471-51327-X
Publisher: John Wiley & Sons, Inc.
Format: hardcover 400p
Date Published: 1992 Price: $ 87.95 USD

John R. Adams, et. al , *Principles of Project Management*

ISBN: 1-880410-30-3
Publisher: Project Management Institute
Format: paperback 307p
Date Published: 1997 Price: $ 59.95

Bennet P. Lientz and , Kathryn P. Ross, *Project Management for the 21st Century*

ISBN: 0-12-449966-X
Publisher: Academic Press
Format: paperback 308p
Date Published: 1998 Price: $ 44.95

J. R. Meredith and S. J. Mantel, Jr., *Project Management: A Managerial Approach*

ISBN: 0-471-01626-8
Publisher: John Wiley & Sons, Inc.
Format: hardcover 784p
Date Published: 1995 86.95 USD

Harold Kerzner, *Project Management: A Systems Approach to Planning, Scheduling, and Controlling*

ISBN: 0-471288357
Publisher: John Wiley & Sons, Inc.
Format: hardcover 1200p
Date Published: 1997 Price: $ 65.00 USD

Jack Gido and James P. Clements, *Successful Project Management*

ISBN: 0-538-88152-6
Publisher: South-Western College Publishing/ITP
Format: hardcover 405p
Date Published: 1999 Price: $ 48.95

Journals/Magazines

Project Management Journal, professional journal of the Project Management Institute

PM Network, professional magazine of the Project Management Institute

BUS764 Financing the Organization

only text and Course Pack Material required

BUS766 Organizational Focus, and Control through Financial Management

Text for Course (to be purchased)
Robert S. Kaplan and Anthony A. Atkinson, Advanced Management Accounting Third edition Prentice Hall.

Journals/Magazines

The Accounting Review	in Bennett
Journal of Accounting and Economics	in Bennett
Journal of Accounting Research	in Bennett
Harvard Business Review	in Bennett
The CA Magazine	in Bennett
The CMA Magazine	available through ABI

BUS780 Applied Project
Course Pack readings on Research Methodology. Specific research articles will vary from student to student and will be obtained as needed.

FILE COPY

Appendix G

SIMON FRASER UNIVERSITY

DEAN OF GRADUATE STUDIES

Memorandum

TO: Ernie Love
Acting Dean
Business Administration

FROM: Jonathan C. Driver

SUBJECT: Proposal: MBA-MOT

DATE: November 10, 2000

You will find enclosed reports of four out of five external reviewers* on the proposal for the **Master of Busines Administration Program in Management of Technology**. Prior to meeting with the Assessment Committee for New Graduate Programs, I would appreciate a written response to issues raised by the external reviewers, if possible by **Monday, November 27, 2000.**

For your information, the reviewers were asked to respond to the following points:

- The academic merit and structural integrity of the proposed program
- The adequacy of the faculty and other resources available to the proposed program for achieving its intended goals
- The demand for the proposed program among prospective students
- The demand for graduates of the proposed program

A meeting is being scheduled for further discussion of the MBA-MOT proposal. I will ask you or a representative of your faculty to attend the meeting in order to answer any questions which the committee may have.

JCD:vb
Encl.

* I will forward to you a copy of the response of the fifth external reviewer as soon as I receive it.

GUIDELINES FOR REVIEWERS

Please consider the following criteria when reviewing the proposed programme:

1. The academic merit and structural integrity of the programme
2. The adequacy of the faculty and other resources available to the programme for achieving its intended goals
3. The demand for the programme among prospective students
4. The demand for graduates of the programme

Please note that the proposed tuition fee for the MBA (Management of Technology) will be $18,900, not the $15,000 charged for the pilot programme.

Please send reviews to Dr. J. Driver, Dean of Graduate Studies, Simon Fraser University, Burnaby BC V5A 1S6 by October 31st. Reviews may be mailed, e-mailed (driver@sfu.ca) or faxed (604 291 3080).

EXTERNAL REVIEW
FOR MASTER OF BUSINESS ADMINISTRATION
IN MANAGEMENT OF TECHNOLOGY

Dr. Joseph C. Paradi
Centre for Management of Technology & Entrepreneurship
Department of Chemical Engineering & Applied Chemistry
Faculty of Applied Science & Engineering
University of Toronto
200 College Street
Toronto, Ontario M5S 3E5

PROGRAM EVALUATION FOR THE PROPOSED MBA IN MANAGEMENT OF TECHNOLOGY PROGRAM AT SIMON FRASER UNIVERSITY

By: *Joseph C. Paradi, Ph.D., P.Eng., FCAE*
Professor and Executive Director
CENTRE FOR MANAGEMENT OF TECHNOLOGY AND ENTREPRENEURSHIP

University of Toronto

October 29, 2000

EXECUTIVE SUMMARY

Simon Fraser University is embarking on an initiative of establishing a new MBA Program in Management of Technology. This initiative should propel Simon Fraser University to the forefront of the leading edge in education and research in the rapidly emerging field of Management of Technology ("MoT").

The Faculty of Business Administration has offered a pilot program already, having completed an admirable amount of work to put together this initiative. The program is well thought out and, on the whole, reflects what is considered to be a competent and up-to-date MoT program at the MBA level. There are a number of specific recommendations offered in the document here to improve the program. These are relatively minor in nature and do not alter either the character or the intent of the course in any way. Nevertheless, the recommendations should be carefully considered before the program is finalized and, if found acceptable, included in the ultimate program structure.

Among the recommendations, the most important involves industry collaboration and the fact that this is crucial to program success. All of University/Industry interactions contemplated are supported and others are encouraged to be added. This includes the creation of a dedicated industry interface officer to provide someone whose specific responsibility is to recruit and retain industrial collaborators. The MOT Business Council is an excellent start on this objective.

Staffing is a crucial issue and certain comments are also provided in this respect. Minor budgetary suggestions are included but more substantial is the recommendation that the most important supporting issues, the availability of hi-tech classrooms offering video, audio, TV projection and complete computer access, equipped with high speed Internet connections for both instructors and students be available.

Finally, I strongly recommend that the new MBA in MoT receive final approval and be implemented as soon as practicable.

INTRODUCTION

Dr. J. Driver, Dean of Graduate Studies at Simon Fraser University requested that I conduct and external review of the University's proposed new Management of Technology ("MoT") MBA Program. Accordingly, I examined the documentation provided to me, together with the web pages offered to the public and have responded to the four criteria as requested. Unfortunately no CVs were included in the review package so I was not able to fully respond to the request in item 2 to establish the "adequacy of faculty". I even tried to access files from the SFU website but for main part without success. However, with the exception of the CVs the package contained sufficient material to understand what is intended and to arrive at a recommendation. First, I offer a brief background on myself for reference, then the results of my analysis, organised in the same order as the proposal was by Dean Driver.

Background

My background includes 20 years in industry where I started a computer services company in 1969 to deliver interactive time-sharing services to the public, but more specifically, to industry clients. For the most part, our business was, at first involved with engineering applications of large-scale computers and later with the Financial Services Industry ("FIS"). For approximately the years from 1975 to 1988 our company ("Dataline Inc.") was involved in electronic commerce focussing on cash-management and securities markets transactions. After selling the company in 1987, I left in January 1989 and joined the University of Toronto. For a full academic CV, see Appendix B.

At the present time, I am carrying out research in MoT in the Financial Services Industry - I am a SSHRC/NSERC Chair holder in MoT. Most of the work we do is devoted to information technology issues (the T in MoT) and also management productivity and efficiency problems. My graduate student complement at this time is 11 (6 Ph.D. and 5 M.A.Sc. candidates), all working in the Information Technology ("IT") field or in FIS related research projects.

1. PROGRAM ANALYSIS

I Academic Rationale

Right at the beginning, I want to state that I fully support this initiative, academic as well as professional. The University is to be commended for responding to a significant need, a need that will surely grow substantially in the coming Millenium. Well trained individuals are, and will continue to be, in very short supply, so the market for graduates should be excellent.

The allocation of teaching staff should help the Faculty to make excellent use of their scarce resources. There is no doubt that not proceeding with the program at this time should not be an option. The window of opportunity is now and the University must take advantage of it now.

II Program Details

The proposal is for a two delivery stream graduate level course set leading to an MBA degree in Management of Technology. The program should intimately involve industry support and

collaboration and this is elaborated in the Section on the **MOT Business Council**; and in the course descriptions provided in Appendices B and D, namely: **BUS780** and I assume in **BUS774, BUS776** and **BUS778**. I consider this aspect absolutely critical to the success of this program and, in fact, recommend that it be emphasised or increased wherever possible. For example, I suggest that most of the courses should require the student to interact with industry or complete projects where industry generated problems are addressed as part of the academic program. Almost all of the courses have or have the possibility to have a "project" content and these should be specifically required to have industry interaction. Since the Vancouver area has a large number of potential industrial partners for this work, careful planning and dedicated industry interface resources should be planned for. This means that someone should have as his/her specific responsibility to recruit and retain industrial collaborators.

I also examined the course pages on the SFU website and found some discrepancies between these and the material I was given. For example, the attached page, see Appendix "A" contains courses: **BUS764** and **BUS766** which are different from the list offered in Appendix B. Most notably, Professor Kirk Vandezande is teaching **BUS766** while Mr. Campbell is responsible for **BUS764**. It would have been appropriate to make sure that the material provided for review is at least consistent with any and all other materials available to the public.

2. FACULTY

Since CVs were not provided to me (and they should have been), I can not judge if the individuals assigned to teach the courses have the skill sets and academic background to be appropriate for what is asked of them. I actually attempted to access SFU faculty records on the SFU website but was unable to do so for some reason (except for Professors Brydon and Vandezande). Therefore, my comments here apply only to the extent that I have been able to judge from the course descriptions. Most of this section appears to be well thought out and should work out as expected.

With the above caveats in mind, the following are my assessments of the individuals' ability to teach the following courses:

BUS750 - Professor Richard Smith. I personally know this individual and his qualifications to teach this course are excellent. He prepared an excellent syllabus and the course content is entirely appropriate.

BUS752 - Professor Aidan Vining. Another excellent course description and careful architecture of a program component is evident. This is a good match to what I would have expected in the course, so I judge that the individual is the right one for this task.

BUS754 - Professor Colleen Collins-Dodd has prepared another excellent course outline and program details. The care in preparation and the contents indicates a very good match between the course requirements and the individual.

BUS756 - Professor Michael Brydon makes a good impression with a very well prepared syllabus which contains what I would expect for this course. He should also be quite appropriate for delivering it.

BUS758 and **BUS780** - Professor Ernie Love appears to know these subjects and this is reflected in the course contents presented here, although, I would have liked to see some more detail in the "Course Organisation" sections. I have no reservations at all about this individual's ability to teach them.

BUS760 and **BUS768** - Professor Gervase Bushe presents two brief course descriptions which are both a little short on some details I would have liked to see. I would assume that he will be able to make a good effort at the delivery end.

BUS762 - Professor Bill Wedley also makes a good case for course content here, some more detail would have been welcome. Again, he should be able to carry out this task well.

BUS764 posed some problems for me in that there appears no detail on this course at all. However, I concluded that this was replaced by course **BUS766** which does not appear on the Appendix B course list. So on that basis, see the next comment. But this conclusion does not hold when examining the website where, in fact, the course list is different.

BUS766 - Mr. John Campbell, an industry based teacher, is assigned to this course. While I have no doubt that he is very knowledgeable on the subject of raising capital, the course description is really inadequate for me to judge either the course content or the instructor as being acceptable. I would have liked to have much more information on this very important subject. Some expansion of the bullet points would be a good start, a list of the cases; something about the guests, etc. would have been very helpful in my evaluations. Finally, without sounding in any way negative because the individual is not a professor, teaching a subject is very different from being an expert in its practice. I am acutely aware of this, as I have followed the industry-to-academia route myself.

BUS774 and **BUS778** - both courses are undefined and unstaffed at this point in time.

Overall I conclude that the staff assigned or proposed to be assigned to this program is appropriate to teach their respective subjects. I would also like to recommend that all course descriptions be modeled after Professor Smith's documentation for course **BUS750**.

Finally, I was able to access the web pages for Professor Vandezande (teaching course **BUS766** according to the website) and found him entirely appropriate to teach a course commensurate with the title of **BUS766**.

3. DEMAND FOR THE PROGRAM

I Clientele

The enrollment projections appear to be realistic. While I have no readily available statistics on the B.C. employment picture, the data provided in the document I had studied indicates that there will be substantial market demand for this course. The one source of corroboration of this statement in my experience is the outstanding success of Queen's University's ***MBA for Science***

& Technology program. This is a program in the same knowledge space as the one proposed here and spaces in the program are in great demand.

The student mix, as can be seen from the pilot program now running, seems appropriate and it is good to see that both science and business degrees are well represented at about half of the total enrolment each.

II Revenue/Income

This is an area I can not comment on very much as I am not an expert in how tuition is set in any University. However, the cost at $18,900 CAD per annum seems quite appropriate. A program of this caliber on this topic would be twice to three times as expensive in the U.S.

4. DEMAND FOR GRADUATES

It is fair to say that none of the growth estimates ever made for technology employment demand have erred on the high side. Any typical 18 month forecast is surpassed in half that time. There is already a 20-30,000 people shortage in the Hi-Tech business sectors and this is sure to get larger in the future. Managing these people and the corporation's technology stance is a key success factor for any firm. The situation is exacerbated by the fact that the U.S has a similar problem, but 10 times larger, so we are experiencing a significant brain drain at the same time. The gap between supply and demand is growing wider and demand will continue to increase dramatically in the next decade and beyond. Students will clamor to get in and companies will be competing for the graduates. It is quite fair to say that graduates of this program will all have significant employment opportunities.

OTHER COMMENTS

I Program Characteristics

While I agree with the paragraph on admissions as far as it goes, I strongly suggest that Industrial Engineering and the Computer Engineering option of Electrical Engineering be considered as potential sources of students. Both engineering disciplines provide undergraduate education that would easily meet the academic requirements for entry into this program. Although the pilot program enrollment came from science/engineering and commerce backgrounds, there must be a continued effort to recruit technologically trained students to ensure relevance to the real world.

While other aspects of any new program need to be there, the real "meat" in any initiative is the curriculum. As such, I have dealt with this under a separate section.

The plan of having this as a dual delivery mode program is sound. There are many more students who can take advantage of the course if some can continue to work while they are taking these courses.

EXTERNAL REVIEW
FOR MASTER OF BUSINESS ADMINISTRATION
IN MANAGEMENT OF TECHNOLOGY

Dr. John Gordon
MBA for Science & Technology
Queen's School of Business
Queen's University
Kingston, Ontario K7L 3N6

SFU – MBA(MOT) – Evaluation of Proposed Program

Integrity and structure of program

The Pre-MOT preparation appears to be the equivalent of the first year in a traditional MBA program with some possibility for waivers in certain courses. This certainly expands the potential market for qualified students but may require close monitoring of the prerequisites waived and the nature of the work experience in the Technology Sector.

Assuming that 4 credits is equivalent to a full semester course (I work on 30 class room hours for a full semester course) , the program itself including the Applied Project would appear to be the equivalent of the second year in a traditional MBA program with no electives. I did note some discrepancy in the courses offered in the second term in the areas of finance/control and organizing & leading between the printed brochure, Appendix A and Appendix B. I would assume that this will be clarified before the proposal is presented to Senate. Although the course titles and descriptions seem to contain explicit reference to Technology it should be stressed that the focus is on management as opposed to Technology. Students and other bodies should be aware that the program does not portend to teach Technology but rather concepts appropriate to the management of organizations involved in the technology sector however that may be defined.

The mix between part time and full time represents a challenge in terms of cohort integration but certainly addresses two segments of the market and introduces more diversity into the classes. The challenge may well be the use of teams on various projects and the overall class dynamic.

A key part of the structure of the program would appear to be the Business Council. The annual subscription of $ 25,000 should certainly make them serious about participating but I wonder about their expectations and whether this will be a deterrent to membership. Again the wording as to how this is to be allocated to various activities should be clarified e.g. "Of the remaining funds, ...". As well some faculty from other departments may view this as a consulting fee being paid to students for a credit course.

A very positive physical/structural component of the program is the dedicated facility on the seventh floor of the Harbour Centre with state of the art technology. The flexibility associated with a dedicated facility provides the opportunity for many innovative pedagogical opportunities which can create an exciting program. Faculty should be free to experiment within these less restrictive parameters. At the same time use faculty who want to try new things!

Faculty resources

I know most of the faculty who are listed as teaching in the program and they are certainly well qualified. As well a number of them have good contacts in the local business community which is important for a terminal, professional program. One of the major challenges is in faculty recruiting and MOT is no exception. It will be important to attract and retain younger faculty who are willing and able to develop the appropriate materials for this emerging field. It may well mean a willingness to use adjuncts who are working in the Technology sector in the area.

Demand for program

It would seem to me that the growing Hi Tech sector in BC makes this program quite appropriate in terms of both student demand and what employers are looking for. From my own experience many undergrads are interested in staying on the west coast rather than going east for graduate education. Am not sure if the same holds for going south for graduate education but between the dollars involved and the time requirements, a compressed, specialized MBA makes sense..

Demand for graduates

With the growth in the Technology Sector in BC one would assume that there will be a strong demand for the graduates of the program. How much attention will be given to the placement of graduates vs. what has been the experience of corporate sponsorship of students? One would assume that members of the Business Council are anticipating hiring and/or sponsoring students. With the attention being given to retaining employees during this period of economic prosperity, a program like this may be used by employers as an incentive for high promise employees. It would seem appropriate to give special attention to career development and placement.

With respect to the fee being charged I would caution that the initial fee will not cover the full costs involved. You have already raised the fee from the initial $15000 – more to come! If it's to be self supporting you will find more costs than you thought were there.

EXTERNAL REVIEW
FOR MASTER OF BUSINESS ADMINISTRATION
IN MANAGEMENT OF TECHNOLOGY

Dr. Paul D. Guild
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Review of SFU's MBA in
Management of Technology (MOT)
October 2000

1. **The academic merit and structural integrity of the programme.**

- As reflected in the course outlines, many top quality books and leading journals in MOT have been used to assemble course materials. These are especially apparent in courses Bus750, Bus752 and Bus754. Some other courses cover more generic MBA topics such IT, OB, project management, and financial management. These are useful complements although not essentially core to the MOT area. Right now the complements outnumber the core courses; but this imbalance may be addressed as the programme gains momentum.
- Forming the "Business Council to insure ongoing relevance of the curriculum to the needs of the high-tech sector" was a wise measure. The nine members from the high-tech community can provide important guidance concerning relevant topics. Certainly, it would be a mistake if the high-tech sector were to be ignored. Nevertheless, because the high-tech sector 'may not know what it does not know', a more usual council of MOT scholars will also be important when determining curriculum.
- The annual subscription fee ($25000) from Council members reflects the stakeholders' value of the MOT MBA. This must be one of few examples where teaching helps to support faculty research in high-tech firms.
- The programme's 36 credits plus additional seminars, 4-day conference and workshops seems comparable to other MOT master's programmes in the country. Likewise, the Course Progression and Timetable are strong aspects; indeed, the structure is very appealing to this reviewer.
- In sum, the academic merit and structural integrity of the programme seem high.

2. **The adequacy of the faculty and other resources available to the programme for achieving its intended goal.**

- The stated objectives of the MOT MBA seem appropriate and complete.
- One acknowledgement in the proposal is a need "to continue the search for a second faculty member specializing in the management of technology". This should be strongly encouraged. In fact, a third specialist might be needed to achieve an effective minimal complement of MOT expertise. At least one of the additional appointments should be at a senior level.
- A goal of having active MOT research to inform MOT teaching should not be underestimated. It is not clear from this proposal exactly how and to what extent this aspect has been addressed. However, recalling the previous point about the desirability of locating additional MOT specialists, one must assume that this is not the strongest feature of the programme. Shortfall in MOT expertise can be seen in the list of 'Faculty and Areas of Research' in Appendix C.
- The 7th Floor Facility with state-of-the-art multimedia affords an enviable teaching resource at HCC. Among high-tech employees there is likely to be a higher than normal appreciation and expectation to deploy technologies that support teaching and learning. This is another strong feature of this proposal.
- The Brochures are highly effective and much more informative than the ones I designed for a similar programme at my university.

3. **The demand for the programme among prospective students.**

- My expectation is that demand for this programme will be unusually high. Other MBA programmes offered by SFU have a reputation as providing first-rate academic quality. In

addition, the Harbour Centre Campus is ideally located to serve the downtown businesses and thereby attract students.

- I expect that many of the students may be gainfully employed already (full or part time) while they take the degree and that often the employers will pay all or part of the tuition fees.
- I am the founding director of a master's option in MOT taught entirely via the web; this programme option has been capped at 100 students, a number that has not proven to be difficult to maintain. A part-time full-cost recovery programme, our tuition fees started out at $25,000 two years ago and were raised to $27,500 with the start of this fall term. We do not feel that our fee structure has deterred many potential applicants. Our experience has been that more must be spent on advertising our program; if this proves necessary in the SFU programme, I would not regard it as a sign of weak interest. Indeed, raising the SFU fees to $20,000 and then averaging expenditures of $1,100 on advertising per student enrolled might be a reasonable approach.
- The present full-time to part-time ratio in the SFU programme is about 2:1. It is somewhat surprising that 2/3 of the students who are "working in high-tech companies" can take this much time away from their demanding positions. It would not be surprising if the ratio flips in the future. And if so, it will be important to structure the programme to cater more to part-time study, perhaps adding remote delivery along the lines of the methods advocated by the TeleLearning NCE as primed from SFU.
- At present, the SFU program achieves about 50:50 split between students with Engineering/Science backgrounds and those from Business. While perhaps a personal bias, shifting the proportion toward more Engineering/Computing/Science might help to repeal Putt's Law that states "technology is dominated by two types of people: those who manage what they do not understand and those who understand what they do not manage". Technologists are even more in demand who have an increased awareness of how to work effectively with the management and business resources within their high-tech firms.
- The SFU proposal for external review states: "The three-year lagged relationship between all bachelors' and all MBA graduates in Canada was 3.55% ... of the 1991 graduating undergraduate class received an MBA in 1994". It may be advisable to extend rather than shorten this lag. Two years of work experience may not be sufficient to develop absorptive capacity for the MOT topics. Students with backgrounds from Engineering/Computing/Science might be better served by acquiring additional work experience before embarking on the MOT MBA. Otherwise, they may have difficulty understanding what makes the organizational contexts and management issues as covered in such a programme so profoundly valuable and relevant to high-tech firms.

4. The demand for graduates of the programme.

- My belief is that demand for graduates of the programme will be very high. The 'high tech' sector within greater Vancouver can be expected to draw upon this graduate pool and a healthy number of the graduates can be expected to go elsewhere in the province or out-of-province.
- Again, this belief is based on first-hand experience. Of some 30 students whom I have supervised over the past eight years, all have been successful in locating attractive positions upon completion of their degrees (or in the case of four, decided to undertake doctoral studies). Of the 30 who have completed degrees, 14 were Canadian students and 16 were visa students. Of the 30, 26 have remained in Canada after graduation and just 4 went outside of Canada for employment (3 to USA and 1 to Asia-Pacific).
- Of these 30, approximately 30% work at software-oriented positions, 10% hardware-oriented positions, 20% in financial industries, 20% in consulting services, 10% in academia and 10% in other categories. Four went from master's to doctoral studies. In terms of size of organization employing these 30, about 45% are large firms, 30% are medium-sized firms and 25% are small firms or new ventures.
- 'Head hunters' often call our department asking for contacts to highly qualified persons trained in the MOT area. Many of the graduates of our programme have positions prior to the

completion of their degree; some graduates have a choice of positions once the degree is completed. I am aware of only one master's student from our MOT programme who required three months to locate a position that he found acceptable -- the vast majority is employed within a month of programme completion.

- I am in regular communication with more than ten other NSERC/SSHRC MOT Chairholders across Canada. I believe that my and their experiences are similar regarding the demand for persons trained in 'management of technology'.
- In sum, it is my opinion and experience that persons having completed graduate studies in MOT (either master's or doctoral level) are in great demand. In fact, I sincerely doubt that Canadian academic institutions who train in this area can keep up with the national demand for graduates.

EXTERNAL REVIEW
FOR MASTER OF BUSINESS ADMINISTRATION
IN MANAGEMENT OF TECHNOLOGY

Dr. Barbara L. Marcolin
Faculty of Management
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University of Calgary
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Review of Simon Fraser University

MBA in Management of Technology

By

Barbara L. Marcolin

MGIS Area Chair

Management Information Systems Area

Faculty of Management

University of Calgary, Calgary, AB

Date
October 30, 2000

Evaluation Criteria

As set out in the guidelines for reviewers, the following criteria were considered in this evaluation:

(1) the academic merit and structural integrity of the programme
(2) the adequacy of the faculty and other resources available to the programme for achieving its intended goals
(3) the demand for the programme among prospective students
(4) the demand for graduates of the programme

Evaluation

After reading the material and skimming most of the course outlines, the MBA in Management of Technology proposal appears to be very sound and in demand by students and employers. Overall, my evaluation of the programme is that it has a strong foundation in academic management content, a skilled and capable group of faculty, a well-conceived advisory board to root the content in current technology practice and a reasonable process for delivering the programme.

Academic merit evaluation

In general, the academic content of this proposed programme is appropriate and well balanced. A programme such as this requires multiple disciplines, leading edge thinking within these disciplines, and the right balance of strategy, technology, organizing, project management content brought together under a unifying principle. This program has that right balance, overall, with one concern around the two semester long course.

That one concern is that it is not clear how the two semester long course described in the opening proposal under Program Delivery page 3 relates to the content described in Appendix A. As far as I can tell this two semester long course is missing from this Appendix A description, but, in my mind, is crucial to such a programme and its relationship to the other content should be clearly explained.

The Program Curriculum section, page 4, describes the structure as nine courses plus a written project. Appendix A describes eight courses and an applied project. In addition, Appendix B describes a course BUS 768 Organization and Management of Technology -Based Companies that does not appear in Appendix A (BUS768 is different than the BUS760 Organizing and Leading, which is described in Appendix A). Consequently, which is the two semester long course and how does it relate to the nine course/one project structure, course progression and course timeline?

An integrated course is essential to such a programme in order to create a coherent theme and the ability to tie elements together. If this capability exists in the course, then the MBA MOT probably has the right balance of classes. However, since it is unclear what constitutes this two semester long course I hesitate to give it an outright seal of approval.

Adequacy of Faculty and Resources

Faculty resources are sufficient, adequately qualified and appropriately from a mix of disciplines.

One minor concern I might have around resources is the on-line search capability available of the library resources. Note that Library resources are listed in Appendix E, not Appendix D as stated on page 4. Appendix E has an excellent list of in-print resource materials to be presented, bought and/or used by the students. However, given that an objective of the MBA in MOT is to focus on high tech industries these library resources should be balanced with an equally impressive on-line search capability. No information could be found that addressed this concern.

Demand by students

Demand by existing students seems high and in my personal opinion will remain high for some time to come. Similar demands are seen at my institution and we are developing a similar high tech masters programme with a slightly different focus, but in response to the same demand from students.

Demand for graduates

Demand for graduates is strong. Again, in our experience here in Calgary the same trends are seen. Employers are eager to hire the students and I think that view is echoed in their Advisory Board.

EXTERNAL REVIEW
FOR MASTER OF BUSINESS ADMINISTRATION
IN MANAGEMENT OF TECHNOLOGY

Response of the Faculty of Business Administration

SIMON FRASER UNIVERSITY

FACULTY OF BUSINESS ADMINISTRATION
OFFICE OF THE DEAN

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November 22, 2000

Dr. Jon Driver
Dean of Graduate Studies
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Dear Jon,

Thank you very much for your memo of November 10, 2000 and the copies of the reports of the four external reviewers. These are all very positive reports and hence it is a pleasure to be invited to comment on the issues they have raised.

In your memo of November 10th, you indicated that the reviewers were asked to respond to four specific points. (i) Academic Merit, (ii) Adequacy of faculty/resources, (iii) program demand and (iv) demand for final graduates in the market place.

I propose to go through each of the reviewer's comments in turn to address issues they have raised. For the most part my responses will refer back to these four points since this was the framing device for their reviews.

Reviewer #1: John Gordon: Queen's University

I am very pleased that John saw that our Pre-Mot preparation courses are the equivalent to the first year of a traditional MBA program. More importantly, he recognized that it greatly expands the potential market for the MOT MBA and this is precisely how we saw it and why we put it in place.

He does note, in his second paragraph a discrepancy between on the one hand the printed brochure (which was sent in the package) and on the other hand, Appendices A & B sent as part of the package.

I think the discrepancy is that the brochure lists two courses Bus 764 (Financing the Organization) and Bus 766 (Organizational Focus and Control through Financial Management. This same set of courses is listed in Appendix A of our documentation but in Appendix B, where we describe the courses, Bus 766 is not there. What is there I noticed is Bus 768 (Organizational Culture and Performance in Technology-Based Enterprises). We had been discussing the need for a 2 credit course in this area with Gervase Bushe but it was to be a Special Topics course. We actually didn't develop the

course but somehow it found its way into Appendix B. I have gone back and corrected Appendix B to reflect what we are doing, which is as it appears in the brochure and in Appendix A.

In his 4th paragraph, John raises the issue of the $25,000 subscription by member firms to belong to the Business Council. His question about the $25,000 being a deterrent to membership is quite accurate. Not every technology firm can see the benefits and we have and continue to work quite hard to provide value to the member firms. He asks that we clarify a bit of the wording on how the funds are spent and I have done this in the document (I am assuming he is not asking for more detail. I believe John appreciates that there is little value in micro-managing these funds. The Business Council is happy with our overall emphasis and that is the critical point).

His final point in this paragraph is whether other Faculties would view our funding of final projects as being a payment for taking a credit course. I don't really believe that we can't defend our approach here. An important benefit for these Business Council firms is to have students carry out an analysis of a major strategic initiative they are contemplating. The students know these studies are very real and very serious precisely because the firm has paid to have it carried out. The firms also know that these students are not left on their own in these studies. We have a very rigorous approach to strategic analysis and every analysis must conform to that rigor. It may well be that these students, down the road, will be effective consultants. But they are not there yet but if they go in that direction, I am pretty confident they are well served by this rigor.

John appreciates the unique advantage we have in the 7th floor TIME Center. For such a technology program, this is a very unique facility.

His comments on **Faculty Resources** and **Demand for the Program,** all seem to be very positive and do not appear to need further comment.

He does note in his comments on and **Demand for Graduates** that we need to give special attention to career development and placement. We are spending a considerable amount of time on that because we agree it is very important. We are working quite hard with the Business Council firms to identify and bring in employees, which they want to retain. We also are working more generally on the career development and placement issues. You may not have heard of the "Etiquette 101" program put on by FBA Career Services this last year. This received a considerable amount of press as something that was helping the careers of young graduates move into the work force. As well, we do run a series of breakfast/recruiting meetings with firms as the MOT students approach the end of the program.

John goes on to question our tuition fee of $15,000 in relation to our ability to build a program that is truly going to aid in developing the high-tech future of BC. We would agree. As you know, based on our actual costs of this first year of operation, we proposed (in a letter to you) that a more realistic tuition be $18,900.

Reviewer #2: Paul Guild, University of Waterloo

On **Academic Merit**, Paul makes a very good point regarding using the MOT Business Council to 'guide our curriculum'. He wisely cautions us that these firms "may no know what they do not know". He is also acutely aware of the impact of Clayton Christensen's book 'The Innovator's Dilemma" the central thesis of which is that firms remain so narrowly focused that they don't see the next disruptive technology (in their industry) before it is too late.

Before launching the program last spring, we put all the instructors 'back into the classroom'. We asked them to present what they were going to teach to a group of faculty and Council firms. That was a very healthy process, which I hope we repeat from time to time. We continue to carry on quite a bit of this type of dialogue with the Business Council members through regular meetings. I think we have a good process going wherein there is some real mutual learning under way.

On **Adequacy of Faculty/Resources**, Paul comments on the need for more depth on the Faculty and proposes one junior and one senior appointment. In our current recruiting plans we are actively searching for a further MOT position. He would not know that we were successful this year in hiring a recent Cambridge PhD in MOT. As well, the University has assigned us a CRC Chair, which has been earmarked for a senior individual in MOT. Of course last year we did explore with Paul whether he himself might have an interest in coming to SFU and take up the leadership of the MOT program. (Paul was, until not too long ago, an adjunct professor here at SFU in MOT, arranged through Applied Sciences). Waterloo recognized his value however as he has now been appointed VP-Research there.

Demand for the program: Paul raises the important issue here about our Full Time/Part Time split. He suggests we look at a structure to more specifically cater to the part time market. His program at Waterloo is entirely on-line and part time. We were also asked to consider this accommodation by the DPRC in their initial approval to go forward. I think we are seeing that we will need to do this. We do have good experience from our GDBA program in delivering graduate education over the internet. As the part time segment grows, there is little doubt that we will accommodate more and more using our on-line approach.

Paul also alludes to our need to build out a PhD structure for this MOT program. I believe we are going to have to do this quite quickly. His experience is that MOT should not stop at the Master's level. A need to invest in the deeper longer-term questions exists and this should be via selected PhD students. My own view is that this is best structured as a joint PhD program between Business and Applied Sciences. However we will make this part of a larger plan to get a PhD structure in place within Business.

Demand for Graduates: He sees the BC market much like we do. All of our feedback from industry is to reinforce the need for this type of training – taking people with a strong technology focus and raising their understanding of the management problems of

technology. Paul notes that 30% of their graduates are going into software positions. Since we have a lot of software development going on in BC we also have to develop management skills specifically aimed at this sector. We are in fact working through, at the moment, how to strengthen the software/information systems issues within the program. Partly this will be to work in conjunction with Applied Sciences/Computing Science to fill in gaps in technology issues and partly it will be on the program itself where we will put more focus on issues in these industries. However this is part of the evolution of any program.

Reviewer #3: Barbara Marcolin, University of Calgary

Academic Merit

Dr Marcolin, in her second paragraph in this section asked about the two semester long course described on page 3/4 of our proposal but it does not appear in Appendix A. This course is in fact, Bus 760 (Organizing and Leading the Organization). It was convenient to place it in Term 2 for grading purposes but in fact it does carry throughout both terms.

In her 3rd paragraph she asks whether there is confusion between the nine courses described on page 4 (Program Curriculum) and the eight courses described in Appendix A.
Please notice that there are two 2-credit courses, Bus 764 (Financing the Organization) and Bus 766 (Organizational Focus and Control through Financial Management. It is these two 2-credit courses, along with the seven 4-credit courses that makes up the nine course sequence. This plus the project makes up the curriculum. She also asks about the discrepancy in descriptions because there was a Bus 768 course listed in Appendix B which does not appear in Appendix A. I have previously commented on this and have corrected Appendix B to reflect that the second Finance course (Bus 766) should have been there.

In her 4th paragraph on this section she again returns to the issue of the two semester long course but I think I have addressed this above.

Adequacy of Faculty and Resources

She points out a small error that Library resources are listed in Appendix E, not Appendix D. This has been corrected in the document.

More importantly, she does raise an important issue regarding on-line search capability. We, of course, make considerable use of on-line materials in this program. The Library resources detailed were only those hard-copy materials we either had, or had access to. The Library had to ensure that additional resources either were not needed or available funding was in place.

Demand by Students/for Graduates

She seems very satisfied that there will be demand both by and for participants of this program

Reviewer #4: Dr. Joseph C. Paradi, University of Toronto

He provides a very thorough review. His Executive Summary is quite useful to highlight areas where we might improve. I would think the most important issue he raises here it the notion of a dedicated industry interface officer. This is undoubtedly a very good idea in some form. Whether we get there also has budgetary implications. I do think if we see that to maintain a strong Business Council took this kind of dedicated resources we would probably use Business Council funding to do this. What seems critical to us is the relationship we are developing with the Business Council and through this, with the high-tech industries.

Program Details

He makes a strong argument for strong industry interaction. We concur completely. This is precisely why we have put so much emphasis on the 'Teaching Hospital' concept.

Faculty

He seems entirely satisfied with our Faculty. He does not comment on the need to build even more academic strength in this area but other reviewers (i.e. Guild) have.

Demand by Students and for Graduates

He seems entirely satisfied that this program is serving a growing market and will be in high demand.

In his Summary and Recommendations he suggests that the entrance requirements should include degrees from Industrial Engineering and Computer Engineering. I don't believe anything in our documentation precludes graduates from these streams. We are very keen to increase the 'trail' of engineering students into this program. This is precisely why we implemented the FMOT (Foundations in MOT) program in the fall semester. By having this set of courses, Engineers/Science students contemplating a return to graduate school in the fall, can easily be accommodated into the MOT program which begins each spring semester. Our desire is to attract many more such applicants from other regions of North America into BC and we are quite hopeful that the FMOT will greatly assist that aim.

-Ernie

Ernie Love
Dean, pro tem
Faculty of Business Administration
Simon Fraser University

MOT Course Descriptions and Faculty Bio

BUS750 Managing Technological Innovation (4 Credits) - This course examines successful product and process innovations in industry, as well as the effective organization and management of the technological change process in new ventures, multi-divisional and multinational enterprises.	Richard Smith
BUS752 Strategic Management of Technology-Based Firms (4 Credits) - This course deals with how technology-based firms develop and implement strategies to create competitive advantage. The module treats strategy at two levels of analysis: (a) the overall strategy of the firm and (b) the technology strategy of the firm.	Aidan Vining
BUS754 Marketing Technology-Based Products and Services (4 Credits) - What differentiates high-tech markets from more traditional ones is the environment -- shrinking product life cycles, rapid changes in information and knowledge and great uncertainty about competitors. This course is designed to teach strategies for developing and executing marketing strategies in technology-intensive markets.	Colleen Collins-Dodd
BUS756 Strategic Use of Information and Knowledge (4 Credits) – This course will demonstrate, though cases and discussion, how information can be used to support decision making, monitor operations, and enable global communications. Topics will include knowledge management and information technology to support a learning organization.	Mike Brydon
BUS758 Supply Chain Management (4 Credits) - This course demonstrates how strategic competitive advantages can be gained through supply chain management – the processes of logistics, production, delivery, and after sales service. Concepts such as flexible manufacturing, just in time inventories and service quality will be examined.	Ernie Love
BUS760 Organizing, Motivating, and Leading the Technology-Driven Enterprise (4 Credits) - Technology-driven organizations are particularly dependent upon human resources. Their employees are intelligent, highly skilled, and very mobile. This course discusses the human resource structures and strategies that technology-based firms use to achieve growth of both the firm and the individual.	Gervase Bushe
BUS762 Project Management (4 Credits) – In high technology firms, projects are a way of life. The introduction of a new product or service, the redesign of an information system, the opening of a new warehouse are all examples of projects that the technology-driven manager may encounter. This course demonstrates how complexity can be managed in a manner that increases the probability of project success. As a course assignment, students develop their own plan for the project/internship phase of the program.	Bill Wedley
BUS764 Financing the Organization (2 Credits) - A basic understanding of the sources of capital, how to allocate it and how to regenerate it is necessary for technology managers This course surveys the sources of venture capital, initial public offerings, mergers, and debt capital. It also concentrates on net present values, internal rates of return, and other tools for capital budgeting and valuation.	John Campbell
BUS766 Organizational Focus, and Control through Financial Management (2 Credits) - Success is often tempered by the constraint of money. Project budgeting, cash flow projection, and contingency planning are tools that help keep the flow of funds in balance. This course looks at how the technology manager can influence the flow of funds through numerous measures such as leverage, equity injections, credit policies, dividends, and taxes.	Kirk Vandezande