APPENDIX "E" TO REPORT NUMBER 133
OF THE PLANNING AND BUDGET
COMMITTEE – October 28, 2009

TO: Planning and Budget Committee

SPONSOR: Sally Garner, Executive Director Planning and Budget
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DATE: October 15, 2009

AGENDA ITEM: 14

ITEM IDENTIFICATION: Faculty of Arts and Science and School of Graduate Studies:
Proposal for a Master of Science in Applied Computing (M.Sc.A.C.)

JURISDICTIONAL INFORMATION:
The Planning and Budget Committee advises the Academic Board on the planning and
resource implications of plans and proposals to establish academic programs.

PREVIOUS ACTION TAKEN:

HIGHLIGHTS:
The proposed Master of Science in Applied Computing (M.Sc.A.C.) is a stand-alone
professional masters degree that has resulted from a planning process within the Department
of Computer Science in the Faculty of Arts and Science. The M.Sc.A.C. will be a 7.0 FCE,
16-month professional master's program comprising two terms of coursework and a
compulsory 8-month term industrial internship. The program description and details
regarding the academic rationale and requirements are outlined in the attached proposal.

The need for a professional graduate-level program has been identified by students and
through an industry survey. It is intended for students with a strong undergraduate degree in
Computer Science or a related discipline who want to expand their academic competence, but
do not intend to pursue careers in research. The program will accelerate the uptake of novel
research in computing and related disciplines in the field. A number of Canadian universities
have started similar programs. A committee was established within the Department of
Computer Science that consulted with faculty members and graduate students. The proposed
program is distinct from the Department's research master's program.

The proposal was reviewed by the Faculty of Arts and Science Three Campus Graduate
Curriculum Committee at its meeting on April 15, 2009. The program proposal was
approved by School of Graduate Studies Council on May 19, 2009 and by the Committee on
Academic Policy and Programs Committee on September 15, 2009.

FINANCIAL AND/OR PLANNING IMPLICATIONS:
The Faculty of Arts and Science and the Planning and Budget Office has reviewed the budget
for the proposed program. The program projects an initial intake of 6 full-time students,
increasing to 12 in its second year and the targeted maximum of 24 per year students in its
third. The M.Sc.A.C. program will draw primarily upon existing Department faculty

members who are already associated with graduate programs through their faculty appointments.

The Department of Computer Science and the Faculty of Arts and Science have committed to provide all the resources needed for this program. The resources necessary to offer the program will be provided by a combination of funding from tuition and BIU revenue generated by student enrolment. In steady state projected revenue is $539,000 from operating grant and $350,000 from tuition. The program is projected to be self-funded within the first year. The program will be accommodated within the Department of Computer Science, primarily in office, shared teaching labs and student workspace. Funding may be available for scholarships and awards and to assist students with incidental fees.

RECOMMENDATION:
The Planning and Budget Committee concurs with the recommendation of the Committee on Academic Policy and Programs:

THAT the Master of Science in Applied Computing (M.Sc.A.C.) program be established within the Faculty of Arts and Science, commencing September 2010.

Master of Science in Applied Computing (M.Sc.A.C.)

Executive Summary

The Department of Computer Science (DCS) proposes the creation of a new Master of Science in Applied Computing (M.Sc.A.C.) degree program in order to provide an outstanding professional education to train the next generation of technical leaders, innovators, and entrepreneurs. The program is intended for students with a strong undergraduate degree in Computer Science or a related discipline who want to expand their academic competence, but do not intend to pursue careers in research. Its most distinctive features are:

- Through the strong research leadership and mentorship of the Department's faculty members, the program will educate a cadre of highly-qualified personnel able to act as a conduit between researchers and industrial practitioners.
- The program will equip graduates with a solid understanding of fundamental concepts in business and technical communication that are relevant to technical leadership roles.
- The program will allow highly-qualified personnel outside academia to transfer their expertise to the university through teaching, guest lectures, and co-mentorship of interns.
- The program will consist of two terms of course work and an eight-month industrial internship in which students will be required to demonstrate that they are able to translate a novel research idea into practice. There will be no thesis requirement, but students will be expected to present the results of their internship to both the department and its industrial partners upon completion of their degree.

Three to four of the seven courses taken by M.Sc.A.C. students will normally be drawn from the foundational courses in the department's existing graduate curriculum. However, M.Sc.A.C. students may, with the approval of the Program Director, substitute relevant courses from other departments, and/or more advanced graduate courses in computer science. Two new courses on technical entrepreneurship and communication skills which will be created specifically for the M.Sc.A.C., and will be required parts of the program.

As a unique program in a jurisdiction of high demand and little competition, the Department expects to initially attract interest primarily from Ontario residents, but also look forward to drawing students from across the country and overseas. Initial student intake will be six students per year, increasing to a maximum of approximately 24 students per year by 2012–2013. There are a considerable number of qualified candidates would value a program of this kind highly enough to pay the fees necessary to make the program self-supporting. The M.Sc.A.C. program will be funded by student fees and BIU funding; no graduate student stipend will be provided by the Department or the University.

The program will draw upon existing Department faculty members who are associated with graduate programs, or faculty from related departments, and on highly-qualified industrial partners whose skills and experience are relevant to the program. M.Sc.A.C. students will be housed in space belonging to Department in the Sandford Fleming Building; no other significant impact is expected on physical resources and facilities. Students will have access to all the facilities and services available to the Department's graduate students following University of Toronto terms and conditions.

While students in professional master's programs like the M.Sc.A.C. are generally not eligible for many external and internal awards, it is expected that most students will be paid a substantial portion of a standard industrial salary during their internship, which should be sufficient for most to complete the program without incurring significant debt.