University of Ontario
INSTITUTE OF TECHNOLOGY

Faculty of Engineering and Applied Science

Business Plan

Master of Engineering and Master of Applied Science in Mechanical Engineering

This is the business plan for the new Masters (MEng and MASc) programs in Mechanical Engineering to be offered by the Faculty of Engineering and Applied Science beginning in the Fall semester 2006.

Rationale for the New Programs
The rationale for offering these programs are outlined in the submission to the UOIT's Curriculum and Program Review (CPRC) Committee .
Market needs and attractiveness of the programs are also laid out in the above mentioned document.

Enrollment Projections and Business Plan Assumptions: MEng & MASc
We propose a scenario that we believe to be the most likely for enrollment in the program as a "Most Likely Scenario". The enrolment corridors have been confirmed to be realistic by the Registrar's office.

The following assumptions were included in the proposed business plan:

- [0] Tuition for the programs is set to $ 5,400 (to be consistent with the Faculty of Science's proposal for their graduate program). .
- [0] Enrollment for the second year to be 90 % of the first year enrollment. 50% of the students will stay for six instead of five terms.
- [1] Full Operating Grant (reduced by the 15% deduction for debt service) per full time student is assumed to be $14,321.55 / annum for a maximum of two years. Part time tuition and operating grant at 1/3 of the above (thus allowing the student to stay five instead of two years). Part Time students stay a maximum of five years. This deviates from the proposal that assumes an quicker degree completion, but the presented assumption is more conservative on the budgetary side.
- [2] [7] Salary Cost is set to $90,000 plus 18.5% in benefits for full time faculty.

- [3] A small number of courses with specializations that cannot be staffed with current faculty will be taught by qualified part time faculty (e.g., adjunct professors, specialists from industry, etc.). The priority is to staff graduate courses with full time faculty. There is no cost to "buy" courses from other faculties in the current proposal. All courses will be offered by the FEAS (and SENS).
- [4] A number of Graduate Research Awards will be provided. The total sum available for these Graduate Research Awards is included as a cost line item in this business plan. We assume that $3,000 per full time student (consistent with the Faculty of Science BP) will be available to fund the GRA. The individual GRA will be awarded according to merit and need to bring up the graduate student income to approx $16,000/annum. Other resources (faculty and granting agencies research grants, TA positions, etc) will amount for the rest of the balance.
- [5] Technical Support Staff will be added to the program. There will be one tech support employees when the program has grown to capacity. As funding for graduate research infrastructure is expected to come from research grants, we see an ongoing necessity to maintain a minimal centralized support infrastructure.
- [6] The program will be supported by 1 additional administrative staff,
- The 26 courses that make up the program will be offered in alternating years, bringing down the number of courses that have to be offered in any given year to 13. (and to minimize the ramp up cost to 6-7 in the first and 8-10 courses in the second year of operations. This is reflected in the reduced faculty complement)
- [7] Benefits are calculated on a basis of 18.5 for FT faculty and 11% for all other positions.
- The majority of laboratory needs will be satisfied either with existing undergraduate laboratories or through research grants.
- [8] Some additional equipment will be required to supplement undergraduate teaching labs for the use in graduate studies, where the scale of the procurement would not warrant applying for an equipment grant.
- [9] A phased in cost of annually $30,000 is assumed for additional teaching resources. This includes hiring of guest lecturers, technical consultants, instructional materials, etc., to support the program.
- [10] A phased in cost of $20,000 for miscellanea is included in the business plan This line item is for purchasing required supplies to support the new graduate program. This also includes a variety of operating costs. Other miscellaneous costs could include, but not limited to, travel to promote the program and for faculty to attend relevant conferences, engagement of technical consultants and part-time instructors to support the program, instructional aides, office and classroom supplies, acquisition of relevant journals and other publications, and other required cost.
- Inflation has an overall effect on the business plan. Salaries and equipment cost are subject to an annual increase, which will has to be countered by tuition increases. Therefore an inflation factor is not included in the business plan.

Enrollment and Staffing Projection

The following enrollment projection is based on average enrollment target. The underlying enrollment corridor (min/max numbers) was confirmed to be realistic by the Registrar's office.

Most likely Scenario

	New Enrollment		Cumulative Enrollment			Cumulative Full-time Faculty Equivalents (F.T.E.)	Cumulative Part-time Faculty Equivalents (F.T.E.)	Additional Support Personal		Government Grant	Tuition	**Total Revenue**
	Full-Time	Part-Time	Full-Time	Part-Time	Total			Tech	Admin			
2006	15	6	15	6	21	1.5	0	0.5	0.5	$243,466.43	$ 91,800.00	$ 335,266.43
2007	20	9	31	15	46	2	1	1	1	$515,575.97	$ 194,400.00	$ 709,975.97
2008	25	9	40	24	64	2.5	1	1	1	$687,434.63	$ 259,200.00	$ 946,634.63
2009	27	9	46	33	79	3	1	1	1	$816,328.62	$ 307,800.00	$ 1,124,128.62
2010	27	9	47	42	89	3.5	1	1	1	$873,614.84	$ 329,400.00	$ 1,203,014.84
2011	27	9	47	42	89	3.5	1	1	1	$873,614.84	$ 329,400.00	$ 1,203,014.84

Assumptions: 90% retention from 1st to 2nd year.
50% of 2nd year students take 6 terms
=> Cumulative FT Enrolment is New Intake + 90% of 5/6 of the previous years Intake
Part Time Students are funded at 1/3 of the FT students and stay for a total of 5 years. .
Government Grant is calculated as $14,321.55 * Cumulative FT enrollment + 1/3 $14,321.55 Cumulative Part Time Enrollment.
Tuition is calculated as $5,400 * Cumulative FT enrollment + 1/3 $5,400 Cumulative Part Time Enrollment.

Projected Revenue vs. Estimated Expenses

	2006	2007	2008	2009	2010	2011
Total Revenue [0,1]	$335,266	$709,976	$946,635	$1,124,129	$1,203,015	$1,203,015
Salaries						
Faculty [2]	$135,000	$180,000	$225,000	$270,000	$315,000	$315,000
Part-Time Faculty [3]	$0	$42,000	$42,000	$42,000	$42,000	$42,000
Course Cost to other Faculties [3]	$0	$0	$0	$0	$0	$0
Teaching Assistants	$0	$0	$0	$0	$0	$0
Graduate Research Awards [4]	$45,000	$93,000	$120,000	$138,000	$141,000	$141,000
Tech Support Staff [5]	$32,500	$65,000	$65,000	$65,000	$65,000	$65,000
Admin Staff [6]	$21,250	$42,500	$42,500	$42,500	$42,500	$42,500
Benefits [7]	$30,888	$49,745	$58,070	$66,395	$74,720	$74,720
Sub-Total	$264,638	$472,245	$552,570	$623,895	$680,220	$680,220
Ratio	78.93%	66.52%	58.37%	55.50%	56.54%	56.54%
Equipment[8]	$10,000	$10,000	$20,000	$30,000	$30,000	$30,000
Other Teaching Rsrc [9]	$10,000	$10,000	$20,000	$20,000	$20,000	$20,000
Miscellaneous [10]	$10,000	$10,000	$20,000	$20,000	$20,000	$20,000
Total Expenses	$294,638	$502,246	$612,571	$693,896	$750,221	$750,221
Ratio	87.88%	70.74%	64.71%	61.73%	62.36%	62.36%
Net Revenue	$40,628	$207,730	$334,064	$430,233	$452,794	$452,794