Background and process

Waterloo’s strength in entrepreneurship, as well as the growth of business options at the undergraduate level, led to the desire to build a distinctive Centre and graduate program(s) in this area. The Centre for Business, Entrepreneurship & Technology was approved in March 2002, and an innovative new Masters in Business, Entrepreneurship and Technology (MBET) accepted its first students in September 2003.

The Centre added another program which commenced in fall 2008, namely the Diploma in Advanced Management, which was offered for three years (2008 to 2011) at ADWEA (Abu Dhabi Water and Electric Authority). This program was offered in modular format, to suit the work schedules of the employees at ADWEA. A subset of these employees also were enabled to continue on to obtain a Master of Management Science (also offered in modular format in Abu Dhabi by the Department of Management Science). Following management changes, the Diploma is no longer being offered in Abu Dhabi, but may instead be offered on campus in Waterloo to Masters students in Engineering.

The Centre also operates other programs, including non-credit certificates, and the undergraduate Enterprise co-op program.

The Centre originally began as a stand-alone Institute reporting directly to the Provost. It subsequently reported to three Faculty Deans (of Arts, Mathematics and Engineering), before moving to become a Centre in the Faculty of Engineering. The Centre is physically located on the north Campus, in the Accelerator Building. Following a second gift from the Conrad Family, the Centre was renamed the Conrad Business, Entrepreneurship and Technology Centre.

This review considers the two graduate programs operated by the Centre, namely MBET and the Diploma in Advanced Management. The review team consisted of Dr. Teresa Menzies, Professor of Management from Brock University, and Dr. Gary Gorman, Associate Professor Entrepreneurship, New Venture Creation and Small Business Management from Memorial University of Newfoundland. Professor Stephen Smith from the Department of Recreation and Leisure Studies was the internal reviewer. The site visit occurred April 10-11 2012. The review report was received May 9 2012, and the academic unit response on June 1 2012. The final assessment report was discussed at Senate Graduate and Research Council on June 11 2012, and a team of three committee members from Faculties outside Engineering led the discussion. The report will be sent to Senate on June 18 in the consent agenda.

Self Study

Entrepreneurship programs are relatively new at the graduate level, but growing. The MBET program is one of the larger ones among 15 identified worldwide by CBET. A larger number of
universities (39) have entrepreneurship centres. Interest in entrepreneurship courses and programs is growing.

The program began with faculty from other academic units teaching on overload. This arrangement proved less than ideal, and the Centre now has three tenure stream faculty and one lecturer, as well as faculty teaching single courses. A fifth full-time faculty member will join the Centre in July 1 2012, and a sixth hire is in process. The Faculty’s strategic plan, Vision 2015, intends to increase the number of tenure stream faculty still further. In addition to the full-time faculty, there is an Entrepreneur-in-Residence. The Advisory Council (about 24 members) are actively involved in student mentorship. There are five staff in the Centre.

The program is course-based, and takes 3 terms to complete. Students are required to study full-time, and therefore complete on time. Student withdrawals are very small (less than 5% on average). The commercialization practicum is an important component. About 20% of students work on their own business idea for the practicum, and the rest work in teams for Ontario businesses. Program tuition is currently about $28,000 for domestic students, and $33,000 for international students, which is high compared to research Masters programs, but modest compared to the cost of MBA programs which are a more direct comparator. More than half of the students receive some support (averaging $8,000 per year or more in the most recent years). The program has raised $7m in endowments, and some of this is directed to student scholarships.

In the first four years, the program had a cohort of about 25 students. In the next three years the program aimed for two classes of 25 students per year (i.e. 50 students), and plans on a cohort of this size for the future. The program attracts a substantial number of international students, who however sometimes experience difficulties in obtaining visas in time to start classes.

The program is based in space in the Accelerator Centre. This space has the advantage that students can interact with businesses in the Accelerator Centre, however the disadvantage that students feel disconnected from the Faculty of Engineering.

The program has worked hard to track graduates. Program statistics show that 45% of graduates have led start-up companies, 42% work in a start-up in some capacity upon graduation, and 75% of graduates have worked in start-ups overall, in various capacities. Over 30 companies have been created by graduates.

The Diploma in Advanced Management has been taught three times, to three cohorts of students in Abu Dhabi, totalling 91 students. The six courses were each taught as intensive 5-day modules, by faculty from CBET and from the Department of Management Sciences, during a calendar year. At the time of writing the self-study, the third cohort had not yet completed. Over 90% of students complete the program: about one-third in the first two years opted to take the certificate, and the rest moved on to complete the Master of Management Science offered in a similar format. (The Diploma courses were credited towards the Masters degree).
Reviewers’ Report

The review report praised the program, in their summary. “The MBET program is a highly innovative, applied degree consistent with the University’s reputation as Canada’s leading innovative university…The content is leading edge with the Practicum being the most innovative feature of the program….The major strength of the MBET program lies in the blend of academic preparation and applied learning opportunities.”

“Graduate outcomes are impressive with a high rate of new venture start-ups by recent graduates…In conclusion the review team is very impressed by the MBET….The CBET programs, current and planned, are innovative and evolving in line with the newest approaches to both Entrepreneurship and Intrapreneurship, not only in Canada but worldwide. CBET stakeholders are to be praised for their outstanding achievements and ongoing efforts.”

The reviewers also commented on the Diploma “This is a unique program… which was designed for a particular client….There appears to be interest in including a management component in graduate Engineering programs. Adaptation of the Diploma…might be warranted given the competitive advantage of catering to University of Waterloo Engineering students. It seems reasonable to capitalize on the internal opportunity while continuing to assess external market potential.”

The reviewers embedded a dozen recommendations in their concluding discussion. These recommendations (summarized from the review report) are to:

1. Review program learning outcomes with a view to establishing more specific measurable objectives, and increase assessment at program (as compared to course) level;
2. Pursue ISO certification;
3. Seek expanded space on campus as part of a new Engineering building;
4. Recruit suitably qualified tenure-track faculty to support MBET, new programs and research;
5. Increase faculty scholarly activity, especially with respect to opportunities with local companies including those represented by the Advisory Council;
6. Pursue a strategy of launching new programs while maintaining the MBET as a flagship Program;
7. Broaden promotional activities, enhance relationships with alumni and report alumni successes as a key to recruitment success. Continue efforts to increase awareness of the program across UWaterloo;
8. Pursue strategies to support the transition of MBET graduates to the marketplace – either through the ventures they create or job placement;
9. Continue to hire research-active faculty who also have significant professional and/or entrepreneurial experience;
10. Capitalize on the internal market for the Diploma in Advanced Management while continuing to assess external market potential. Consider if changes in course number and content are warranted;
11. Continue working toward the goal of becoming a School in the Faculty of Engineering. Seek opportunities for greater integration with other department in Engineering, especially Management Sciences; and

12. Work with the Faculty, university administration and other units on campus to create a more holistic and collaborative “feeder system” that integrates entrepreneurship activities across campus.

Academic unit response

The response of the unit was as follows (summarized from the letter of response for points 1 and 2, quoted verbatim for points 3 through 12):

1. [re learning outcomes:] The program already has some program-level assessment (for example a project which is common both to BET 601 – strategy, and BET 605 – accounting), and the practicum involves a 360 assessment, and monthly meetings of faculty to discuss progress. The program will take this advice into consideration.

2. [re ISO certification:] this may be considered in future when the Centre is closer to steady-state, and has School status.

3. [re space:] This is an objective in our Vision 2015 Plan. A key to achieving this objective is the ability to raise funds from donors and to match these with internal and government funds. Our hope is to secure approximately 15,000 square feet in the planned E7 building.

4. [re faculty recruitment:] Three new tenure-track positions are part of the Faculty’s commitment to implement our Vision 2015 Plan. This will bring the total number of tenured/tenure-track faculty to nine by 2015.

5. [re increased faculty scholarly activity:] A similar objective is expressed in the research section of our Vision 2015 Plan. Increased numbers of tenure-track faculty will also help us to address this objective. Assisting with research linkages is part of the terms of reference for the Advisory Council.

6. [re new programs:] This is the basis of the strategy for the Centre’s growth outlined in our Vision 2015 Plan. We plan to launch two new Master’s degree programs: Master of Business, Intrapreneurship and Innovation, and Master of Product Management. The reviewers commented favourably on the market potential of these innovative programs.

7. [re recruitment:] The Conrad Centre is currently developing a detailed marketing and recruitment plan to achieve the growth objectives of the Vision 2015 Plan. Graduate recruitment is also a high priority at the Faculty and university level, and more resources are being devoted to graduate marketing and recruitment at all levels within the university.

8. [re transition of graduates to marketplace:] This issue is recognized in our Vision 2015 plan – especially with respect to helping to support the ventures developed during the program. However, there are significant constraints as we are not funded to incubate firms. [The unit describes] current activities with respect to transitioning graduates to the marketplace [additional documentation is available].

9. [re academic/professional mix of faculty experience:] Additional tenure-track positions are provided for in the Vision 2015 Plan. Our recruitment strategy emphasizes faculty that are credible academics, excellent teachers, and experienced professionals or
entrepreneurs. As the reviewers note, finding the “right” people is a substantial challenge, but is critical to the success of the Centre.

10. [re marketing the Diploma:] Our plan is to launch the Diploma in Waterloo beginning with the 2012-13 cohort of Meng students. We will use feedback from this experience to refine course offerings, and to craft a value proposition to expand the market to other types of students.

11. [re School status:] These objectives are part of the overall Faculty Vision 2015 Plan, and are consistent with Conrad’s individual Vision 2015 Plan.

12. [re cross-campus integration of entrepreneurship initiatives:] This is an issue that goes well beyond the Centre and Faculty of Engineering. Conrad has long advocated such integration among entrepreneurship initiatives. Our hope is that the issue will receive significant and purposeful attention as an outcome of the university’s mid-cycle planning review process.

The unit commented that the recommendations are in general agreement with the direction established by its recently-completed “Vision 2015 Plan”. It is helpful to have this external validation of the plans and objectives.

Two-year implementation plan

The following steps will be taken by the academic unit within 2 years (by September 2014):

1. consider the suggestions on program assessment;
2. commence planning and fundraising for future space needs;
3. develop hiring timelines and draft profiles for new faculty appointments;
4. work with the Advisory Council to identify research opportunities with local companies;
5. work on the development of at least one new Masters program;
6. enhance efforts for marketing and recruitment of the program; and
7. launch the Diploma for students in Engineering at Waterloo (provided Ministry approval of the tuition is granted in sufficient time to do so).

The unit will also work to be a part of a more campus-wide strategy on entrepreneurship (a topic currently being taken up by the Executive Council of the University), and continue efforts to move towards School status. These changes may take more than two years, however the unit can report on progress at the time of the 2-year review.