The future of ITEC is something to look forward to with some optimism. The original vision deriving from Peter Cribb’s proposal has begun to be fleshed out in Arts, Atkinson, and Glendon. Each of these groups will evolve in its own way, but in this plan for the Arts group we must recognize the reality of the close integration of the Atkinson and Arts groups. This integration extends from the curriculum into the research areas and the planning for a future graduate program. The combined group (numbering 4 tenure stream in Arts and 4 in Atkinson with a search on for a 5th one there) brings enough breadth of background to begin identifying some research foci, which should aid in future recruitment of new faculty.

The current set of majors numbers roughly 1300 in Arts and another 1100 in Atkinson, with the first sizable graduating class expected in June and November. With the major changes in the curriculum which took effect this year, moving what had been 6 courses (all courses in ITEC are one-term courses) from COSC to ITEC, the faculty are now responsible for teaching the 12 core courses versus 6 last year. A conservative estimate of the enrolments in the Arts offerings of ITEC courses in FW03 is 3100, or 310 FTE’s, across 29 course sections. The resources for the new enrolments will be phased out of FPAS over three years, back to Arts and Atkinson. We are making as strong a case as we can that we need (at least) one tenure stream hire per year over the next several years to cope with the teaching, and to get on with developing a graduate program, plus some CLA appointments in the interim to help carry the load. We think that, although the overall job market is tight, and will get tighter, there is still an opportunity to hire good faculty if we move soon. Although there remains a small cadre of potential contract teachers, especially with the recent crash in the tech industry, we foresee this pool shrinking rather than growing over the next several years. We also need to deploy our full time faculty to cover most of the upper level topics, with strategic assignments at the lower level to coordinate and ensure stable curriculum over multiple sections of most of our courses. Although the intake for the programs dipped this past year (due to what we call the ‘Nortel effect’), we expect it to rise, with the coming of the double cohort, at least back to the level of two years ago. (However, see the discussion at the end of this document on recruitment.)

The academic areas covered by the ITEC program in Arts have expanded to include core courses in areas previously taught to ITEC students through computer science, as noted above. Over the past three years we have designed the curriculum for and provided the initial offerings of a number of key courses at the third and fourth year levels related to the study of human-computer interaction (ITEC 3230), database management (ITEC 3220), computer networking (ITEC 3210), advanced systems analysis (ITEC 4010), distributed software technologies (ITEC 4020) and IT strategies (ITEC 4030). The development and deployment of these courses has helped to define the unique nature of the ITEC program in Arts. In keeping with the initial goals and philosophy of the ITEC
program in Arts we have emphasized providing students with both a solid technical background (through developing our own programming courses at the first and second year levels, now being offered and consisting of the new stream ITEC 1620, 1630 and 2620) as well as promoting an interdisciplinary and broad educational perspective to understanding and applying information technology to varying real life environments, an emphasis we have taken in developing our new curriculum. Our courses and approach are beginning to be recognized as being innovative and influential in bridging education in the study of information technology with related studies in the Arts other disciplines. (We are planning a new joint major with Communication Studies, and will certainly be interested in some linkage with the proposed Cognitive Science program.) In addition, we have emphasized a strong focus in providing students with the type of background that will allow them to apply their studies to applications in industry in the new knowledge-based economy. With the core part of the curriculum stabilizing and undergoing refinement over the next two years, we also see that the opportunity and need for development of new more specialized courses in areas related to the expertise of existing and new faculty. (New courses in Requirements Management and Advanced Databases have been approved for 2003-4.) This would allow the program to move beyond providing only core courses to offering a fuller range of undergraduate elective courses. Thus major academic goals are: (1) to continue to refine and stabilize the new core course offerings, over the next two years, (2) to develop and enhance the undergraduate elective courses in information technology over the full period of the next five years, and (3) to extend planning for an ITEC graduate program, which we are hoping to have in place sometime within the next two to three years. However, the potential for further development of the curriculum is limited by the current shortage of full-time faculty. This will need to be addressed in order for the program to continue to develop. We plan to focus future hiring on teaching need (first for core course areas as described above and then second for elective areas) in conjunction with areas of research specialization that are emerging in the program (in areas described below in the discussion of current and future research themes in Arts ITEC).

One reason we are somewhat optimistic about the potential for recruiting good faculty is the strength we have already succeeded in amassing, and the research foci mentioned above which we see developing. More targeted advertising to attract people with interests linking with these foci might help us reach a larger number of qualified applicants. Of course, it is also fortunate that we are located in the GTA, which is a very attractive locus for many people associated with the technology industry. This is particularly true for the areas we will call health informatics and e-commerce, broadly speaking. Prof. Kushniruk is involved in a number of studies around software usability in the health sector, and Prof. Cysneiros is involved in the study of requirements management in the same sector. Prof. Yang and Prof. Benslimane have ongoing studies in the area of the utilization of, and effectiveness of various software methodologies in the business sector, and are starting to work jointly with Kushniruk in some of his studies. There are also potential other potential linkages, e.g. between Yang’s work on IT investment evaluation and Benslimane’s work. The nature of the research that is developing in the program in Arts can be characterized by an interdisciplinary focus, and
a growing emphasis on the study of the interaction between human and technical aspects of the use of information technologies. There is a strong interest by faculty in the evaluation of information technologies, from a broad perspective, as well as the development of methodologies for both the design and deployment of more useful and usable information systems in a variety of domains. In addition, strong links are beginning to be made between the research conducted in the ITEC program and a variety of academic departments and institutions at a number of major universities in Canada and internationally.

There is currently a strong interest and demand in the ITEC student body to participate in research projects that the faculty are undertaking. Over the past year a number of students have participated in joint collaborative research projects involving York and other institutions and we expect approval for next year of a project/reading course to allow our students to also obtain credits for their work on research projects. In addition, with the number of senior ITEC students growing, the program is affording opportunity for students to obtain experience both as research and teaching assistants. All of our faculty see potential for deploying our senior undergraduate students in research projects. When the Atkinson and Arts ITEC groups move into the new TEL building this Summer, it will enhance the opportunities for more cooperative work between the members of the two groups on their respective research programs.

Areas Needing to be Addressed:

With the growing student body and successful evolution of the ITEC program in the Arts to date, the major issue of concern on the curricular side is the shortage of full-time tenure stream faculty. This includes faculty who will be needed in order to maintain the quality of the new first year programming courses and the existing second year courses on systems analysis/design and data structures. In particular the Arts group will require faculty capable of directing and teaching core Java programming-related courses. Further faculty will be needed to staff and direct the increasing number of sections of the third year courses, in particular in the areas of human-computer interaction, computer networking and databases. Finally in order to maintain an adequate offering of fourth year courses, faculty will be needed in both the long and short terms. Of course, planning for growth in the number of faculty over the next several years has space implications as well. It is likely that some portion of the offices in the Arts ITEC precinct in the TEL building which have initially been allocated to the Applied Algebra group from Mathematics and Statistics, will have to be reclaimed by the ITEC group within the ambit of this 5-year plan. It should be the case that the teaching and research lab space available in the Atkinson and Arts precincts in TEL will be adequate over the same time span.

One area of particular concern on the curricular side, in addition to the current shortage of full time faculty, is the imminent curtailment of the right of qualified ITEC students to
participate in the Internship Program run through FPAS. Although only a small number of qualified students have chosen to do so thus far, the number of potentially eligible students will be growing rapidly from this year to next, and there is as yet nothing in place to serve them after this September. Not only that, but even the idea that York might thus be forced to initiate another parallel program, appealing to many of the same potential employers as the existing program, seems ludicrous. There is certainly interest in both Atkinson and Arts in seeing some sort of pan-University program, at least in the technology area, which can present a common interface to the job market for internships. Many of these employers will have an interest in hiring both traditional computer science students and students with an ITEC background (somewhat lighter on the technical side, but much stronger on the user side, and especially in the area of communication skills). However, they will not be happy to have those students marketed to them through multiple interfaces. This will undoubtedly disadvantage all of York’s students, including those in the new Engineering streams which require an Internship. We see the necessity for leadership on this issue at the University level, finding a mechanism to incorporate the needs of (at least) all of the technology streams at York. The existence of the Internship program has been a valuable recruitment tool in the past, and losing it for this year will not help in attracting the best students.

With the growing number of students in Arts ITEC, a third area that needs to be addressed is the need for a more realistic structure for routine advising, management of TA’s for the large multi-section lab courses, maintaining content on the ITEC web site, and so on. The overwhelming burden of routine advising for students cannot be sustained going into the future. The nature of the ITEC curriculum, involving as it does cooperative work with other areas in Arts such as Communication Studies, Philosophy, Political Science, and Humanities, also requires more monitoring than would a more self-contained curriculum. These burdens are similarly felt in the Atkinson ITEC group, and we are proposing that Arts and Atkinson jointly fund an administrative position, to be staffed by a person sufficiently knowledgeable in the technology area to be able to evaluate transfer credits, and advise students on appropriate course selection. This position would assume the routine advising role for all ITEC students, leaving only the exceptional cases to be dealt with by the Coordinators of the respective programs. He or she would also handle the recruiting and allocation of duties for TA’s, both graduate and undergraduate. It seems clear that, with the physical relocation of the two ITEC groups to adjacent floors of the TEL building, it will make increasing sense to look at ways of further consolidating their administrative support. An argument can be made in favour of having a single administrative unit, with faculty appointed to both Arts and Atkinson, and budgets flowing from both Faculties. This would lead to such reasonable practices as having a single hiring committee, T&P Committee, and so on. The current faculty in Arts ITEC favour an evolutionary approach to this question over the next couple of years. This might well begin with the development of an academic reward structure for students in one or another flavour of the programs in the two Faculties.

The last area of concern deals with the recruitment of the best students for the program. Currently, it appears that only about 50% of those starting the program will survive to the third year, which means that too many of the wrong students are being admitted. With
the current admission requirements, we get a very broad spectrum of students, ranging from those who are extremely good to those who are very weak, both in aptitude for technical topics and in communication skills. A very large fraction of the intake consists of students with ESL backgrounds. Given the emphasis on communication skills in the ITEC curriculum, and the unfortunate necessity for having mostly large classes, many of these students have major difficulties early in their program of studies. It is likely that raising the bar on both language skills and overall academic performance requirements for admission would improve the odds on success in our program. The alternative of providing much greater support for (especially) new students is one which the Faculty might wish to consider, in light of the expectations for students arriving from the new Ontario curriculum.

The UPR scheduled for two years from now will provide a good opportunity for the three ITEC units to reflect on the overall nature of the curriculum which will be in place by then, and how successful our students will have been in finding employment which utilizes the skills they have honed in our programs. We can hope that the development of the proposed graduate program will be far enough along that the UPR process will help to improve the final result on that front as well.