Background

In the Spring of 2006, the Institute for Virtual Enterprise (IVE) convened a planning committee that sought to reform the technology education areas at Kingsborough Community College (KCC) of the City University of New York (CUNY). The committee identified two widely successful programs at Kingsborough as integral to providing this change: Virtual Enterprise (VE) education, which has matured over the past eight years, and the Opening Doors Learning Communities Initiative (LC), for which KCC has thirteen years of experience. Using these programs as bookends on a Kingsborough technology student’s academic career is likely to provide them with the direction and success that would otherwise be beyond their reach. This moves us toward creating a national model for technology education reform.

Virtual Enterprise has been shown to be an effective program across a number of career areas at Kingsborough Community College and the City University of New York including tourism and hospitality, graphic design, office technologies, biotechnology, and communications and performing arts, as well as for special populations such as at-risk students, international students, College Now (high school students taking college courses for credit), and students reentering college after having previously been dismissed for academic reasons. Studies have also found Virtual Enterprise to be a particularly supportive environment for women and minority students, nontraditional students, and at-risk populations. Based on these successes, the diversity of ability, background, and ethnicity represented in the student body of Kingsborough Community College, the existing Virtual Enterprise faculty learning community at KCC and CUNY, and the overwhelming need for business/entrepreneurship and soft skill development in technical programs—areas in which VE excels—Virtual Enterprise seems a powerful mechanism for reforming technical education at the community college and beyond.

The Opening Doors Learning Communities Initiative at Kingsborough has been successfully operated for thirteen years. The Initiative assembles cohorts of students to take a one-semester series of courses. The data from this program continues to validate the high success rates for learning community students versus the same students who are not in learning communities. Students in learning communities have higher pass rates, move out of remediation more quickly, have higher GPA’s and pass the CUNY WAT sooner than their counterparts. One of the greatest benefits is that the students connect with one another, building study groups in the short-term, and life-long networking contacts in the long-run.

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1 This work is supported by a grant from the National Science Foundation, Advanced Technology Education Program (DUE-0501711).
Why Virtual Enterprise?

Current Virtual Enterprise curriculum includes the following areas of emphasis:

1. Workplace Skills and Competencies: grasping the many ways business leaders, decision-makers, employees, workgroups, teams, departments, and matrix organizations work together.

2. Technology Skills and Competencies: becoming skilled in the use of software resources and the Internet as essential tools to help people gather, organize, and share information. Navigating technical divides/differing levels of technical fluency in order to both train and learn throughout their careers.

3. Entrepreneurial and Intrapreneurial Skills and Competencies: gaining skills and knowledge in ways of institutionalizing and living innovation.

4. Communications Skills and Competencies: mastering the methods of gathering, sharing, organizing, and communicating information to meet organizational goals.

5. Psychosocial Skills and Competencies: developing leadership, teamwork, presentation, communication, and interpersonal skills.


While most would agree that the above skill set is important to cultivate in emerging technology professionals, the rigor and intense content of the technical programs of study addressed in this proposal do not allow for additional hours of instruction devoted solely to the Virtual Enterprise areas of emphasis listed above. Consequently, this planning proposal seeks to thoughtfully integrate the existent program-specific technical curricula with the Virtual Enterprise areas of emphasis listed. This will be done with collaborative teams of technical program faculty, Virtual Enterprise faculty, and fellows of the CUNY Institute for Virtual Enterprise. The goal will be to create a seventh area of emphasis:

7. Creative, effective and agile applications of IT know how—applying IT skills learned in VE and other classes to meet market needs, streamline organizational structures and maximize productivity.

In addition, the principals hope that the infusion of virtual enterprise into technical curricula will have a converse effect, that an additional outcome of this project will be that the existing virtual enterprises in non-technical areas incorporate a more robust technological backbone thanks to this collaborative development.

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The Technology Careers Center: Direction, Networking and Skills

The union of these components is the creation of the Technology Careers Center. The Center would target students who have an aptitude and a desire in a discipline that is primarily involved in the production or consumption of technology. Having two primary goals, it would first help guide their choice of major through a Learning Communities engagement and individual advisement, and secondly, impart industry-critical skills through LC and VE curricula. The Center is designed to specifically target credit-bearing associate degree programs in Computer Science, Engineering Science, Retail Merchandising, Office Administration and Technology, Tourism and Hospitality, Computer and Information Systems, Broadcasting, Graphic Design and Illustration, and Maritime Technology. Students would be primarily engaged twice by the Center, at the very beginning and ending of their Kingsborough Career.

The First Bookend

Two Learning Communities will be offered to incoming freshmen. Both communities will consist of a Student Development (SD10) course, which will include a Virtual Enterprise engagement that will focus on the technology world. The second course will be either an English or Speech course. The third course will be a content course selected from the College’s catalogue that visits key issues common to the majors, such as problem solving, and satisfies a common group requirement of the majors. Unlike the communities currently offered on campus, one novel outcome is that these communities will span two semesters.

Simultaneously, the students will be given the opportunity to meet one-on-one with advisors from each of the technology-area studies. This individual interaction will allow the student to assess their strengths and determine what career is most suitable to their interests and abilities.

By adopting this model, the program builds on the existing success of Kingsborough’s long-standing Learning Communities Program. The college already has in place the mechanisms to track the students in the cohort and compare their grades and retention to students in similar courses outside of the community. The desired outcome is that the cohort of students will have an equal footing in the basic technology skills, such as technical writing and analytical problem solving, and be aware of the full breadth of curriculum options available. Rather than turning to a generic Liberal Arts degree, most of these students will choose among one of the technology programs.

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The Second Bookend

ve" is the Information Technology powered Virtual Enterprise – the final course to be taken by the students. Two sections of the course will be run in parallel, one charged with the development of technology and the other as a primary user of it. The interaction between the firms, through contracts, specifications and deals, will allow the students to better understand the challenges faced on both sides of the technology world.

The course will bridge the gap between academic education, career, and entrepreneurial activities in the area of information technology (IT). These technical students will develop into a high-powered technician with soft-skills, awareness of differences between theory and current practice, and the ability to tie together and apply parcels of academic learning acquired at disparate times in their academic career.

The course opens by challenging students to explore the current technology issues through readings selected by the instructors of the course. From interests spurred by these readings, students self-select a business focus and research the underlying issues. This focus can vary from typical IT sectors: web design, networking, database development, and graphic design; to technology themes embedded in other industries: bio-technology, travel technology, among others. Based on common interests, small firm teams within the class will be formed. Each team will consist of technical students plus students interested in running the supporting facets – accounting, marketing, public relations, and so on.
Firms will develop their business plan then begin soliciting project work. The teams can serve the needs of many different communities: projects desired by corporate partners that would typically be given to interns, active research pursued by faculty members, and the needs of other Virtual Enterprise firms in IVE’s global network. In the last case, the MarketMaker software would be expanded to allow for the listing of and competitive bidding on project contracts. At the conclusion of the semester, the most successful student businesses would be encouraged to apply for real-world capital to implement their business model.

**Faculty Development**

Faculty development is inextricably linked to curriculum and program development. Faculty development areas of emphasis will include:

- Virtual Enterprise pedagogy
- Advanced technology training
- Soft skills development
- Technology entrepreneurship
- Technical and career education pedagogy

In addition to traditional means of faculty development such as face-to-face and web-based seminars, and conferences, faculty development in this project will also consist of collaborative projects that will substantively impact the other program components of curriculum development and program pilots. The technology backbone of Virtual Enterprise in US Higher Education is a web-based software program called the MarketMaker, which enables virtual e-commerce firms to do business with customers and other firms around the world, and also allows firms to go public, incur debt, accept credit card payment, and pay with the MarketMaker credit/debit cards. Like most software, the MarketMaker is launched in numerous versions and technical faculty as well as virtual enterprise faculty will work collaboratively to enhance the market maker.