REPORT OF
THE MASTER OF STRATEGIC PLANNING FOR CRITICAL INFRASTRUCTURE (MSPCI) REVIEW COMMITTEE

Site Visit Dates: February 2-3, 2009

Committee Members:

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Report Date: February 25, 2009

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This Committee report is based on the on-site interviews and discussions, conducted on February 2-3, 2009, as well as the reading of all of the documents submitted to the Committee in advance of and during the review.

The record of interviews and discussions is contained in the attached Agenda provided by the Graduate School. All meetings listed on the Agenda were held as planned, and all Review Committee members participated in all meetings. All of the participants in the meetings were present, as indicated on the agenda. Meetings with the students were conducted by conference calls due to the geographical constraints of the students. No facilities were examined as a part of this review, because all courses in the program are delivered online.

The principal documents that the Committee read and studied were: Program Self-Study prepared by the program (November 2008), Review Committee Materials prepared and distributed by the Graduate School, individual course introductions provided by Educational Outreach, and sample Capstone Projects provided by the program. The Review Committee also received several written statements from current students and graduates of the program.

The Review Committee was asked to make a recommendation regarding the continuing status of the program. It was also asked to enumerate what it found to be the strengths and weaknesses of the program and to make recommendations for the future. We address each of these charges in turn.

Continuation of the Program

The public is at great risk if the nation's critical infrastructure is not planned and managed to be resilient and responsive plans are not developed for its rapid restoration in the event of damage. The program provides an important educational opportunity for professionals involved in planning and managing critical infrastructure, and should be continued. Based on our findings, the Review Committee recommends that the program faculty and program managers engage in a strategic planning effort to sharpen the focus of the program, define the mission, and make appropriate adjustments to the program curriculum. There currently is some confusion among the students in the program regarding the program focus. Some of them believe that it should be homeland security, others believe that it should be emergency management, while others think that it should focus on higher level strategic management issues. A part of this planning effort should be to craft clear marketing materials to attract appropriate students. To assess the results of this planning effort, the Review Committee recommends that the program be reviewed again in five years.

Evolution of the Program

The program was originally developed in partnership with the Washington National Guard to focus on protection of critical urban infrastructure as a response to the events of September 11, 2001. The program was established as a fee-based, online program developed and offered by the Department of Urban Design and Planning in collaboration with Educational Outreach. A

primary source of students was envisioned to be the National Guard. Internal problems at the Washington National Guard led to a breakdown of the partnership during the first year of program operations, and the planned enrollment of National Guard students was never realized. During the initial years, the program restricted admission to applicants who possessed infrastructure security or emergency management experience. As the application pool declined, the program started admitting students seeking a career change without any previous relevant experience. This has led to a demand from current students for student internship opportunities and job placement assistance.

Strengths of the Program

1. The program has developed a strong national reputation. It has close ties to the premier graduate program in homeland security at the Naval Postgraduate School. With a minimal amount of marketing and recruitment effort, it has attracted students from across the nation interested in the protection of critical infrastructure. It builds on the reputation of the University of Washington. The topic of critical infrastructure is of growing national significance. The program is well-positioned to take a leading role in this area.

2. Based on interviews with students and faculty members, it is also apparent that the program has a dedicated program manager. It also has strong support from Educational Outreach which provides technical support and marketing services. Members of the program faculty are enthusiastic, engaged in their respective fields, and positive about the program and the students. There is also diversity in their academic backgrounds which is a strength of the program. There is an interesting mix of courses, and the educational content, on the whole, is strong. The program emphasizes strategic planning, systems analysis, risk assessment, decision-making tools, GIS, and other skills relevant to critical infrastructure. The program also builds on linkages to faculty working on current research related to cyber-terrorism, transportation, hazard mitigation, epidemiology, and other topics related to critical infrastructure. A strength of the program is the exposure to a wide variety of different methods as well as newly developed tools such as Model Based Vulnerability Assessment (MBVA) applicable to different systems.

3. The program is also fortunate to have an active and committed Advisory Council. They expressed support for the program and willingness to assist in improving the curriculum, providing internships, and marketing the program.

4. Based on a review of summary student evaluations, it is evident that students are mostly satisfied with the program, and ratings are above or close to college and University-wide scores. While some students expressed concerns regarding advising, job placements and career counseling, overall the program has achieved a strong record in terms of student placements upon program completion. Alumni also expressed support for the program.

Challenges Facing the Program

The program faces a number of challenges.

1. When the program started, there were few academic programs in emergency management and homeland security. In the past few years, many programs have been established across the nation at the associate, baccalaureate, and masters levels.

2. The topic of "critical infrastructure" and its definition continues to evolve. Faculty and students expressed concern over the scope of the field, raising questions about the core knowledge, theories, skills, and methods that should be covered as well as the relationships between critical infrastructure, emergency management and homeland security. While the program came into existence following 9/11 and concerns related to terrorism, an all-hazards perspective seems more relevant given state, regional, and national needs. Faculty, students, and alumni also expressed support for a broadened view of critical infrastructure to include topics such as energy use, impacts of climate change, and sustainability. While there is support for updating the curriculum, there are also resource and time constraints. The curriculum has already grown to 52 credits.

3. Other challenges facing the program are changes in the college and University affecting the priorities and available resources. Efforts to change or expand this program must be seen within the context of the educational and research missions of both the College of Built Environments (which was recently renamed) as well as campus-wide initiatives affecting both state-sponsored and fee-based programs. There is need for more integration between the program and other programs on campus.

4. The Review Committee noted a lack of faculty involvement from both the Department of Urban Design and Planning as well from the college as a whole. These concerns are exacerbated by the relocation to California of the program director who currently maintains only a 40% appointment at the University of Washington. Coupled with increased competition from other institutions and declining enrollments, it is apparent that program faces significant challenges.

Recommendations

Based on our findings, the Review Committee has the following recommendations:

1. Develop a Management Plan for the Program

The Department of Urban Design and Planning is currently searching for a new chair, the director of the MSPCI program has relocated to California, and the program manager has relocated to Educational Outreach office space. Thus the department and college will lose the opportunity to engage in developing and managing the program. Currently, the program director is the only faculty member from the department who is responsible for advising and mentoring MSPCI students. Once a new department chair has been hired, a program management plan needs to be developed to integrate the MSPCI program within the department and college. Faculty members across the college should be recruited to participate in teaching courses within the program.

2. Engage in strategic planning to sharpen the program focus

To clarify the program focus, program faculty in partnership with the Advisory Board should engage in a strategic planning exercise to review the program curriculum and make adjustments,

as necessary, to sharpen the program focus. Some topics that should be considered in this process are:

Is the program to have a regional, national or international focus? Strategic planning level decisions about whether the program is going to have a regional, national or international focus will help to choose appropriate markets and also partnerships across the globe. Given global climate change, rising sea levels and efforts to develop new energy sources, the program is well placed to serve not only regional, but also national and international students. Since the program was developed in collaboration with the Washington National Guard, it retains a regional focus. In view of the increasing international interest in critical infrastructure, the program faculty may wish to expand the program perspective to include an international focus to attract additional students.

Rethink the Curriculum. The program faculty should examine the possibility of adding new courses and eliminating or combining some of the existing courses. Current courses can be grouped into system analysis, strategic planning, risk assessment, decision support. An important goal of curriculum revision should be to add clarity and academic rigor. Also, course contents need to be kept current by frequent updating and incorporation of new case studies.

Integration with the College and University initiatives. To take advantage of College resources and build on the reputation of the program, the Review Committee also suggests that the program be aligned with and take advantage of the College as well as the University initiatives (for example climate change, resilient cities, and energy).

Assessment of program outcomes. While there are individual course evaluations that seem to be in place for the program, additional assessment tools are needed to evaluate program learning outcomes. This will provide an opportunity to assess program effectiveness and identify opportunities for program improvement.

Reduce the number of credits required for the degree. The original program proposal identified 45 credits and 14 courses as the number required for earning the degree. The program currently requires 16 courses and 52 credits for the degree. Some courses are 4 credits, while others are 3 credits. The Review Committee recommends that the graduation requirements be reduced to the 45 contained in the original proposal. Discussions with the program faculty indicated that this would be feasible. One option would be to convert the existing Capstone course to an independent study that could be completed over two quarters and engage all program faculty in working with the students on their research projects.

Make all courses numerically graded. About half of all courses in the program are graded credit/no credit, which leads to some concern regarding the academic rigor. The Review

Committee recommends that most, if not all, of the courses be numerically graded. The students interviewed by the Review Committee expressed a similar concern.

Revisit the pre-requisites. As the curriculum is revised, the Review Committee recommends that the current set of pre-requisites be revisited. From discussions with current students, alumni, and program faculty, the Review Committee questions the need for the two pre-requisites.

3. Craft a marketing plan/strategy

The Review Committee recommends that the program faculty, the Advisory Board, and the Educational Outreach staff develop a clear marketing strategy for the program. The strategy should clearly articulate the program focus and the skills and knowledge acquired by completion of the program. It should also identify appropriate venues and target audiences for marketing the program.

4. Student feedback

Comments received from current students indicated that some instructor feedback was not provided in a timely manner. The success of online education is significantly enhanced when students receive timely and frequent feedback. The Review Committee recommends that all course instructors provide feedback within one week of receiving the student work. Since the duration of each course is only ten weeks, weekly feedback is needed to reinforce student learning.

Submitted by:

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Attachment: Site Visit Agenda