March 28, 2006

MEMORANDUM

TO: Ann Wylie  
   Interim Dean, Graduate School

FROM: Phyllis Peres  
      Associate Provost for Academic Planning and Programs

SUBJECT: Proposal to Add a Graduate Certificate in Professional Studies in Information Assurance (PCC Log No. 05045)

At its meeting on March 17, 2006, the Senate Committee on Programs, Curricula, and Courses approved the proposal to add a Graduate Certificate in Professional Studies in Information Assurance. A copy of the approved proposal is enclosed.

The Graduate School should ensure that this program is appropriately reflected in all University documentation.

/cwr
Enclosure

cc: James Baeder, Chair, Senate PCC  
    Sarah Bauder, Office of Student Financial Aid  
    Mary Giles, University Senate  
    Barbara Hope, Data Administration  
    Anne Turkos, Archives  
    Linda Yokoi, Office of the Registrar  
    Gay Gullickson, Graduate School  
    Judith Broida, Office of Professional Studies  
    Kristin Owens, Office of Professional Studies  
    William Lucyshyn, School of Public Policy
THE UNIVERSITY OF MARYLAND, COLLEGE PARK
PROGRAM/CURRICULUM PROPOSAL

DIRECTIONS:
- Provide one form with original approval signatures in lines 1 - 4 for each proposed action. Keep this form to one page in length.
- Early consultation with the Office of the Associate Provost for Academic Planning & Programs is strongly recommended if there are questions or concerns, particularly with new programs.
- Please submit the signed form to Claudia Rector, Office of the Associate Provost for Academic Planning and Programs, 1119 Main Administration Building, Campus.
- Please email the rest of the proposal as an MSWord attachment to pcc-submissions@umd.edu.

DATE SUBMITTED March 3, 2006

COLLEGE/SCHOOL Office of Professional Studies/Graduate School/ School of Public Policy

DEPARTMENT/PROGRAM GCPS – Information Assurance

PROPOSED ACTION (A separate form for each) ADD _X_ DELETE ______ CHANGE ______

DESCRIPTION (Provide a succinct account of the proposed action. Details should be provided in an attachment. Provide old and new sample programs for curriculum changes.)

Attached is a program agreement for a Graduate Certificate of Professional Studies in Information Assurance.

JUSTIFICATION/REASONS/RESOURCES (Briefly explain the reason for the proposed action. Identify the source of new resources that may be required. Details should be provided in an attachment.)

A new graduate program designed for a professional audience. After conducting market research, the need for increased proficiency in Information Assurance studies is evident in the regional area. This program is self-support.

ORIGINAL

APPROVAL SIGNATURES

1. Department Committee Chair
   William Lively
   3/26/06

2. Department Chair N/A

3. College/School PCC Chair N/A

4. Dean
   2/14/06

5. Dean of the Graduate School (if required)
   3/17/06

6. Chair, Senate PCC
   3/27/06

7. Chair of Senate

8. Vice President for Academic Affairs & Provost

VPAAP 8-05
Program Agreement

Graduate Certificate of Professional Studies in Information Assurance

February 14, 2006

The University of Maryland is committed to providing educational programs that meet the needs of a variety of audiences. As part of our graduate offerings, the Masters of Professional Studies and the Graduate Certificate in Professional Studies are designed for adult students who wish to increase their subject-matter knowledge as well as prepare them for new challenges related to their professional areas. These programs are managed by the Office of Professional Studies, with academic oversight by Academic units, and housed in the Graduate School.

Academic Oversight Committee Members

CORE Representative (committee chair and graduate director):
William Lucyshyn
Director of Research and Senior Research Scholar
School of Public Policy

Elective Representative:
Lee Strickland
College of Information Studies

Graduate School Representative:
Ann Wylie
Dean, Graduate School

OPS Program Manager:
Kristin A. Owens
Assistant Dean, Office of Professional Studies

Certificate Description

The information assurance/security education market is very crowded and confused. A plethora of information security certifications and many educational programs vie for students and 59 higher education institutions have been certified by NSA as Centers of
Excellence. Adding to the confusion locally, University of Maryland University College offers an Information Assurance concentration within its MS in Information Technology. The University of Maryland College Park has an opportunity to meet a growing market need for management-savvy information security professionals and to differentiate its program from others by a more management-oriented program.

While there are no specific job requirements for an interdisciplinary certificate in information assurance, there is ample evidence of a demand for security personnel who understand business. In the federal arena, there is a recognition in federal agency compliance legislation that security is more than a technology issue – it is a management issue. At the same time, there is a recognized responsibility of security professionals to understand and communicate business aspects of security, not just technology.

As part of the GCPS program model, this certificate is derived from 4 existing graduate-level courses, from a variety of related disciplines including Engineering, Library and Information Science and Public Policy (core). It will be initially targeted to professionals in federal agencies and government contractors.

**Admissions Criteria**

The admissions policy will reflect current university standards, including the prerequisite bachelor’s degree and a 3.0 GPA in all undergraduate classes. Official undergraduate transcripts from all colleges attended must be provided. As is currently the case, professional experience may be substituted for an entrance exam and students must have completed the prerequisites for courses in the program.

**Required Courses**

**ENRE 684 Information Security (3 credits)** This course is divided into three major components: overview, detailed concepts and implementation techniques. The topics to be covered are: general security concerns and concepts from both a technical and management point of view, principles of security, architectures, access control and multi-level security, trojan horses, covert channels, trap doors, hardware security mechanism, security models, security kernels, formal specifications and verification, networks and distribution systems and risk analysis.

**PUAF 711 Public Management and Leadership (3 credits)** Reviews the managerial, political, and ethical problems faced by public sector managers and leaders, including setting an organization's goals, obtaining and protecting a program mandate, designing a service delivery system and implementing a new program.

**INFO 711 Financial Management of Information Projects (3 credits)** This course expands on the financial management of information projects. IT Project Management or equivalent work experience is a prerequisite. Topics include developing the project budget based on the project plan, understanding work breakdown structures and
scheduling techniques, earned value, tracking and reporting project costs, risk management, best practices, and cost/benefit analysis.

**PUAF 698 Special Topics: Information Policy (3 credits)** This course covers the nature, structure, development and application of information policy. Interactions of social objectives, stakeholders, technology and other forces that shape policy decisions.

**Faculty**

Faculty selection and appointments will be made by the respective academic departments. Current faculty may include:

*William Lucyshyn*
Director of Research and senior Resident Scholar
Center for Public Policy and Private enterprise
School of Public Policy
2101 Van Munching

*Lee Strickland*
Visiting Professor
Director, Center for Information Policy
College of Information Studies
4105 Hornbake Library

*Michel Cukier*
Assistant Professor
Mechanical Engineering
A. James Clark School of Engineering
0151E Martin Hall

**Program Sequencing**

Courses will follow a traditional semester format.

<table>
<thead>
<tr>
<th>Fall 2006</th>
<th>ENRE 684</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2007</td>
<td>PUAF 711</td>
</tr>
<tr>
<td>Summer 2007</td>
<td>INFO 711</td>
</tr>
<tr>
<td>Fall 2007</td>
<td>PUAF 698</td>
</tr>
</tbody>
</table>

December 2007 Graduation - Certificate
Outcomes and Assessment Plan

The purpose of this plan is to set clear guidelines, identify articulated outcomes and ensure avenues for continuous improvement for each graduate certificate and program managed by the Office of Professional Studies. It is our mission to provide high quality programs that meet UMD’s institutional goals, while providing flexibility for curricular changes as needed.

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Measures and Criteria</th>
<th>Assessment Schedule</th>
</tr>
</thead>
</table>
| 1. Students will demonstrate understanding of Information Assurance related to interdisciplinary content-areas | Successful completion of required integrated coursework, including politics, literature, international relations and special topics  
Criterion: all program students are required to maintain a cumulative 3.0 in all GCPT coursework in order to successfully complete program. 100% of a graduating cohort will attain a B (3.0) grade.  
Criterion: all program students will successfully complete one written scholarly paper. | This data will be collected annually, beginning Fall 2006.  
After each program cycle, curriculum will be reviewed to assess program cohesiveness. |
| 2. Students will increase knowledge-base of current management issues | Successful completion of Capstone course; PUAF 698, with paper and/or special project focusing on current management issues related to information mgmt  
Criterion: attainment of B (3.0) grade or better. | All data will be collected annually, beginning Fall 2006. |
| 3. Student success will be an integral part of program success | An exit interview will be conducted with a random sample of graduates (20%) to assess their overall satisfaction with the certificate. | Responses will be collected and discussed with the Academic Oversight committee for retention purposes. |
UMD Roles and Responsibilities

A. Office of Professional Studies

Program Manager
1. perform market research with marketing team
2. meet with campus partners to build internal team for program
3. create budgets
4. manage daily aspects of program
5. provide all necessary administrative support
6. develop Internal Partner MOA
7. coordinate Academic Oversight Committee
8. spearhead approval process on campus
9. manage program logistics (rooms, schedules, student orientation, instructor contracts, campus waivers)
10. manage marketing initiatives to promote program
11. assist with student retention issues
12. liaise with instructors on student concerns
13. evaluate the program

SPOC Manager:
14. manage the creation of websites for admission and registration processes
15. enter courses into the system (with appropriate codes)
16. assist students with online admissions and registration
17. monitor student academic progress with graduate school
18. answer administrative questions from students
19. monitor enrollments and student progress
20. manage all program-related forms (admissions w/graduate school, graduation application, etc.)
21. assist with graduation clearances

OPS Financial manager:
22. review the budgets
23. make transfers to academic partners

B. Graduate School
1. provide rep to serve on Academic Oversight Committee
2. ensure that Graduate School requirements are met
3. process graduate student admissions
4. monitor academic progress

C. CORE Department
1. provide rep to serve on Academic Oversight Committee
2. assist with identifying appropriate audiences for marketing initiatives
5. manage grading process with instructors/dept via UMEG
6. provide FRS account # for revenue transfer

D. Elective Departments
1. may serve on Academic Oversight Committee
2. identify instructors for the elective courses
3. manage academic disputes
4. manage grading process with instructors/dept via UMEG
5. provide FRS account # for revenue transfer

Campus Approvals:

Judith K. Broida  Associate Provost and Dean, Professional Studies  2/13/06

Steve Fetter  Dean, School of Public Policy  2/14/06

Jennifer Precece  Dean, College of Library and Information Studies  2/15/06

Nariman Farvardin  Dean, A. James Clark School of Engineering  date

Ann Wylie  Dean, Graduate School  date

PCC, Graduate Council  date

Phyllis Peres  Associate Provost, Academic Affairs  date

PCC, Campus Senate  date
Addendum

GCPS – Information Assurance

February 27, 2006

Concern 1-B: Size of program, new populations:

Each course will require a minimum enrollment of 6 and allow a maximum of 20 students. If enrollments exceed the maximum, additional course sections will be added. We envision offering two courses simultaneously each semester. This is a self-support program. Courses will be re-scheduled if minimum enrollment is not met.

This program is expected to draw a new professional audience to the university. According to the market research that was conducted, the initial target audience includes banking and accounting firms, federal agencies, government contractors, health care industries, telecommunications, and technical industries. Generally, we are targeting the mid-management professional working in a variety of I.T. fields to meet the competencies of the NSA Center of Excellence.

Concern 1-C: Similar programs at other institutions:

The most competitive academic programs for the proposed certificate are those that operate regionally or online, that have an established brand, and that offer a management-oriented graduate program – either a master's degree or certificate or both.

A market research assessment provided insight into these competitive programs. Currently there are two programs (James Madison and Towson) that offer a concentration or certificate as part of a masters program and are not offered individually. Regionally, three independent certificate programs (UMUC, George Washington University and George Mason) were identified; however they reflect a technology perspective and do not offer management as a focus. We believe this certificate will meet an untapped need of the regional population and support the growth of management personnel within a variety of technology and information fields.

Concern 2-B: Faculty Resources

All instructors who teach in the program will be members of the graduate faculty and be approved by the Dean of the college. Instructors will teach on overload.