May 23, 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 Food Safety Risk Assessment (PCC Log No. 05070)

At its meeting on April 7, 2006, the Senate Committee on Programs, Curricula, and Courses approved the proposal to add a Graduate Certificate in Professional Studies in Food Safety Risk Assessment. A copy of the approved proposal is enclosed. Please accept my apologies for the delay in formal notification.

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
Kristin Owens, Office of Professional Studies
Mickey Parish, Nutrition and Food Science
Leon Slaughter, College of Agriculture and Natural Resources
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 27, 2006
PCC LOG NO.: 05070

COLLEGE/SCHOOL: Office of Professional Studies/Graduate School/College of Agriculture

DEPARTMENT/PROGRAM: Nutrition and Food Science

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 in Professional Studies in Food Safety Risk Assessment.

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 Food Safety Risk Assessment studies is evident internationally. This program is self-support.

APPROVAL SIGNATURES

1. Department Committee Chair: Mickey Bland

DATE: 3-28-06

2. Department Chair: N/A

3. College/School PCC Chair: N/A

4. Dean: N/A

DATE: 3-20-06

5. Dean of the Graduate School (if required): N/A

6. Chair, Senate PCC: James D. Brandon

DATE: 4-7-06

7. Chair of Senate: N/A

8. Vice President for Academic Affairs & Provost: Phyllis Price

DATE: 5-23-06

VPAAP 8-05
PROPOSAL FOR

NEW INSTRUCTIONAL PROGRAM

UNIVERSITY OF MARYLAND AT COLLEGE PARK, MARYLAND

Graduate Certificate in Professional Studies in
Food Safety Risk Assessment

PROPOSED INITIATION DATE: FALL 2006
I. Overview and Rationale

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.

The Office of Professional Studies strategic plan includes:
- Provide high quality graduate programs that build on the academic strengths and resources of the university,
- Serve the academic needs of Maryland’s professional community,
- Increase interdisciplinary programs offered by the Graduate School and the Office of Professional Studies, and
- Maintain high academic quality and standards via the Academic Oversight Committee, comprised of UMD faculty.

A. Briefly describe the nature of the proposed program and explain why the institution should offer it.

Market research conducted by Eduventures, an education research collaborative for higher education, indicates that the demand for students with interdisciplinary training in food safety analysis exists among employers, and that there is a limited supply of educational opportunities to train practicing professionals at the graduate level. Only two institutions, Kansas State and Michigan State, offer an online program. The target market is specific and geographically dispersed; thus, an online delivery modality will enable the university to maximize its reach and enrollments.

B. How big is the program expected to be? From what other programs serving current students, or from what new populations of potential students, onsite or offsite, are you expecting to draw?

The food manufacturing industry is made up of 27,897 establishments and employs more than 1.5 million workers (2002 U.S. Economic Census). The size of this industry underscores the potential enrollments from this sector. The target audience for this program is individuals, both national and international, working in government regulatory or policy-making agencies, in the food manufacturing industry, or coming out of institutions with bachelor’s degrees in food safety and risk-analysis-related fields. The program plans to achieve a steady state of 80 enrollments (headcount) per year.
II. Curriculum

A. Provide a full catalog description of the proposed program.

While risk analysis has been used for hundreds of years in the insurance industry and engineering fields, its application to food production and distribution is a recent phenomenon. In the past decade, federal agencies responsible for food safety have adopted risk analysis as the official science-based paradigm for decision making. However, few food science academic programs include risk analysis in their curricula. This graduate certificate program at the University of Maryland is one of the few such programs in the U.S. Through this series of four 10-week online courses, students will be instructed in the three basic components of risk analysis: 1) risk management, 2) risk communication, and 3) risk assessments as they apply to food processing systems.

B. List the courses (number, title, semester credit hours) that would constitute the requirements and other components of the proposed program. Provide a catalog description for any courses that will be newly developed or substantially modified for the program.

All courses are currently in the VPAC pipeline for permanent approval.

**NFSC 501 Food Safety Risk Management (3 credits)**
Pre-requisites: none

Risk Management in the context of food safety is the process of weighing policy alternatives to control risks as effectively as possible. It is the foundation of the risk analysis paradigm. Risk analysis begins, is guided by and ends with risk management. The course begins with an introduction to the risk assessment, risk management, and risk communication tasks of risk analysis. The role of risk management in providing science-based approaches to solving food safety problems is the focus of this course. Topics covered include several risk management models and practical applications in critical risk management activities including identifying problems and issues that merit attention, establishing objectives, developing questions, determining if and when a risk assessment is needed, formulating, evaluating, selecting and implementing the best management option to manage the risk.

**NFSC 502 Food Safety Risk Assessment (3 credits)**
Pre-requisites: NFSC 501

This course focuses on the theory, methodology, and the mainstream risk assessment models with emphasis on state-of-the-art guidelines and an examination of actual risk assessments- including post-market and pre-market assessments utilizing the safety paradigm, carcinogenicity assessment, biotechnology, nutritional risk/benefit assessment, microbiological risk assessment, antimicrobial resistance and animal drug risk assessment, and food defense risk assessment.
NFSC 503 Qualitative and Quantitative Methods in Food Safety Risk Assessment (3 credits)
Pre-requisites: NFC 501 and NFSC 502

This course examines the specific qualitative and quantitative methods necessary for characterizing, evaluating and comparing food safety risks. Screening and ranking tools useful in qualitative assessments will be presented. Quantitative modeling considerations such as probability, sensitivity analysis, uncertainty, and variability will be examined, and methods such as event trees, probabilistic scenarios analysis, and Monte Carlo methods will be tested. Students will develop simple risk models suitable for responding to risk managers’ needs using qualitative or quantitative tools.

COMM 668A Risk Communication (3 credits)
Pre-requisites: NFSC 501

Ideas about risk are becoming increasingly important in a variety of disciplines, including sociology, psychology, law, consumer behavior, public health, and communication. Scholars who study risk take multiple approaches. For example, those in the natural sciences are concerned with risk assessment, and they focus on refining their abilities to quantify risk in terms of probabilities of occurrence of a noxious event. Psychologists investigate how and why, given the same levels of exposure, individuals vary in their perceptions about personal vulnerability. Legal scholars investigate the legal ramifications of exposing the public to various sources of risk, including contaminants, chemicals, etc. Public health researchers study the relationship between risk perception and health behaviors. And, communication scholars study how risk information can be most effectively disseminated to the general public.

C. Describe any selective admissions policy or special criteria for students selecting this field of study.

The admissions policy will reflect current university standards, including the prerequisite bachelor’s degree and a 3.0 GPA cumulative average. Official undergraduate transcripts from all colleges attended must be provided. Professional experience, determined by review of professional credentials such as a resume, will be used in lieu of an entrance exam to determine qualifications for admission into the program.

III. Student and Learning Outcomes and Assessment

A. List the program’s learning outcomes and explain how they will be measured, and B. Include a general assessment plan for the learning outcomes.

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 programs that meet UMD’s institutional goals and objectives for educational activities.
### Student Learning Outcomes

Students will successfully:

1. Know and comprehend the language and models of food safety risk analysis tasks.
2. Plan and organize a risk management activity for a food safety problem.
3. Apply one or more option formulation method.
4. Describe and analyze the differences in chemical, microbial, and whole food risk assessment.
5. Screen and rank food safety hazards to set priorities.
6. Use a generic risk process to qualitatively assess risks.
7. Distinguish uncertainty and variability; identify several probability distributions useful in modeling these properties in quantitative risk assessment.
8. Create a simple food safety assessment scenario.
9. Identify a coherent risk communication purpose.
10. Design, research and prepare an effective risk communication message.

### Assessment Measures and Criteria

Web-based achievement evaluation tools (to include quiz, matching questions, calculations and short essays) will be employed to evaluate learning accomplishments. These tools will be used after each course module. Individual written assignments will accompany selected course modules.

Extensive interactive group work in an interdisciplinary environment will be included for many course modules.

### Assessment Schedule

Data will be collected and analyzed beginning Fall 2006.

### IV. Faculty and Organization

#### A. Who will provide academic direction and oversight for the program? [This might be a department, a departmental subgroup, a list of faculty members, or some other defined group.]

A program committee will provide direction and oversight for this program. Its members include.
V. Off-Campus Programs

A. *If the program is to be offered to students at an off-campus location, with instructors in classrooms and/or via distance education modalities, indicate how student access to the full range of services (including advising, financial aid, and career services) and facilities (including library and information facilities, and computer and laboratory facilities if needed) will be assured.*

The program is being offered completely online in an asynchronous format, which consists of four ten-week terms during the year (ten-week terms approved 6/3/00 by Finance Committee) All student services will be provided through SPOC, the Single Point of Contact. SPOC is a web-based platform which allows students to access all services needed to support their academic program. Through a partnership between the Office of Professional Studies and the student services offices on campus, SPOC supports students, faculty, and campus departments from initial inquiry through graduation.

*B. If the program is to be offered mostly or completely via distance education, you must describe in detail how the concerns in Principles and Guidelines for Online Programs are to be addressed.*

To assure academic quality, all online programs will adhere to the policies and concerns outlined in the University of Maryland document, *Principles and Guidelines for Online Programs* (5/4/00 memo approved by the President, soon to be online).

**1. Program Initiation and Choice.**
The proposal was initiated within an academic unit and has the approval of the Deans of the Colleges. The proposal contains a financial plan with revenue goals, and is based on extensive market research.
2. Program Development, Control and Implementation by Faculty.
The Department’s chair and faculty have overall control over the design, development, and delivery of the program to assure quality and that the instructional strategy proposed is appropriate for this content.

Students will have access to student services through SPOC (see section V.A.). Student services such as admissions, registration, financial aid, bill payment, advisement, bookstore, library, and similar services will be provided through SPOC.

Intellectual property agreements have been developed in cooperation with the University Counsel’s Office. These contracts delineate ownership and usage rights for materials that are developed in an online format. These contracts will be used for course development in this program.

All published materials describing the program will carefully lay out instructional methods to be used, the skills and background necessary for success, academic support and resources, and available student services. Academic admission standards will be clearly described, and will be consistent with those for on-campus programs.

The program will also meet the standards outlined in MHEC’s Minimum Requirements Concerning Distance Education, and the Middle States Commission on Higher Education’s Distance Learning Programs: Interregional Guidelines for Electronically Offered Degree & Certificate Programs.

VI. OTHER ISSUES

A. Describe any cooperative arrangements with other institutions or organizations that will be important for the success of this program.

The program is being developed in cooperation with The Joint Institute for Food Safety and Applied Nutrition (JIFSAN), a partnership between the United States Food and Drug Administration and the University of Maryland. The Institute is a jointly administered, multidisciplinary research and education program and includes research components from the FDA Centers for Food Safety and Applied Nutrition and Veterinary Medicine, and the University of Maryland.

B. Will the program require or seek accreditation? Is it intended to provide certification or licensure for its graduates? Are there academic or administrative constraints as a consequence?

The program will neither require nor seek accreditation. Although it is not intended to provide certification or licensure, the courses may be applicable for licensure or certification through relevant professional accrediting associations. In addition, there may be opportunities to partner with accrediting associations to provide educational opportunities for certification or continuing education units. No constraints are anticipated.
VII. COMMITMENT TO DIVERSITY

The University of Maryland is an equal opportunity institution with respect to both education and employment. The University does not discriminate on the basis of race, color, national origin, sex, age, or handicap in admission or access to, or treatment or employment in, its programs and activities as required by federal (Title VI, Title IX, Section 504) and state laws and regulations.

Through its actions and statements of policy the University of Maryland has demonstrated a commitment to diversity by creating programs of study which explore the experiences, perspectives, and contributions of a wide variety of cultures, groups, and individuals; and has sought to create a campus environment which encourages tolerance and respect for individuals regardless of differences in age, race, ethnicity, sex, religion, disability, sexual orientation, class, political affiliation, and national origin.

VIII. REQUIRED PHYSICAL RESOURCES

A. Additional library and other information resources required to support the proposed program.

Online access to library materials is provided as a service by the University’s library. No additional resources are required to support this program. The course management platform, tutorials, and technical help are provided by the University’s Office of Information Technology as a regular service to the campus community.

B. Additional facilities, facility modifications, and equipment that will be required. This is to include faculty and staff office space, laboratories, special classrooms, computers, etc.

The program is being offered in a fully online, asynchronous format and can be supported with existing resources. No additional physical resources are required.

C. Impact, if any, on the use of existing facilities and equipment. Examples are laboratories, computer labs, specially equipped classrooms, and access to computer servers.

Little or no impact is anticipated to existing facilities and equipment.

IX. RESOURCE NEEDS AND SOURCES

A. There will be no impact on existing resources. This program is self-support. Courses may be cancelled due to low enrollment.

B. All instructors who teach in the program will be members of the graduate faculty and be approved by the Dean of the college. Faculty will teach on overload. Conditions and approval for faculty overload will be consistent with University policy.
Campus Approvals:

Judith K. Broida  Associate Provost, Dean of Professional Studies  3/27/06

Cheng-i Wei  Dean, College of Agriculture and Natural Resources  3-30-06

Mickey Parish,  Department Chair, Nutrition and Food Science  3-28-06

James Harris  Dean, College of Arts and Humanities  3/27/06
Addendum: GCP, Food Safety Risk Assessment

Participating Instructional Faculty

Dr. Charie Yoe, Professor, Economics, College of Notre Dame
  Adjunct Professor, NFSC, UM

Dr. Monique Turner, Asst. Professor, Communications. Dir. Ctr. for Risk Communication Research

Dr. Mickey Parrish, Professor & Chair, NFSC