I. Call to order

II. Approval of Minutes of Meeting Number 459, 12 December 2011 (please see attachment)

III. Announcements

A. Recent additions to the Graduate Faculty

- LISA COLBURN, MARINE AFFAIRS 11/10/2011
- JESPER RAAKJAER, MARINE AFFAIRS 11/10/2011
- ELIZABETH FALLON, HEALTH STUDIES PROGRAM 12/2/2011
- ALLISON HARPER, KINESIOLOGY 12/2/2011
- JENNIFER AUDETTE, PHYSICAL THERAPY 12/14/2011
- EMILY CLAPHAM, KINESIOLOGY 12/20/2011
- GREG MEHOS, CHEMICAL ENGINEERING 12/22/2011
- ROBERT WIDELL, HISTORY 12/22/2011
- MARK COMERFORD, MATHEMATICS 12/27/2011
- LARS ERICKSON, MODERN LANGUAGES, FRENCH 1/13/2012

B. The deadline for receipt of nominations for the Excellence in Doctoral Research Awards is 15 February 2012.

C. Report on the outcome of the recently enacted ‘automated time-to-degree enrollment holds’ initiative.

D. Grade Point Averages for graduate students; a breakthrough is near.

IV. Committees

A. Curriculum Committee

I. 400 – level courses

Changes:

1) College of the Environment and Life Sciences
Department of Cell and Molecular Biology

**MIC 422 Biotechnology of Industrial Microorganisms** - change in course listing and title to MIC/MLS 422 **Biotechnology Manufacturing** and in catalog description to read: The use of genetically altered microorganisms and eukaryotic cells for the production of therapeutic agents and vaccines. Upstream and downstream processing, Good Manufacturing Practices. (Lec. 3)

2) College of Arts and Sciences  
Department of Languages

**SPA 472 Topics in Hispanic Literature** – change in title to **Topics in Hispanic Linguistics**.

Department of Computer Science and Statistics

**CSC 491 Directed Study in Computer Science** – change in prerequisites to read: permission of instructor.

3) College of the Environment and Life Sciences  
Department of Geosciences

**GEO/NRS/EVS 482 Innovative Subsurface Remediation Technologies** – change in course listing to read: **GEO/NRS/EVS/CVE 482 Innovative Subsurface Remediation Technologies**.

**New Courses:**

1) College of the Environment and Life Sciences  
Department of Cell and Molecular Biology

**BCH 482 Proteins and Enzymes (3)**  
A survey of protein structure and function. The topics include principles of protein structure and function, enzyme catalysis and regulation, and case studies of proteins and enzymes in biological systems. Pre: BCH 311 or equivalent.

Department of Environmental and Natural Resource Economics

**EEC 497 Internship in Environmental Economics (1-3)**  
Supervised work experience in environmental and natural resource economics or related areas with a governmental agency, nongovernmental organization, or in the private sector. Can be repeated for up to 9 credits. Practicum. Pre: EEC 105. S/U grading.

II. **500/600-level courses**

**Changes:**

1) College of the Environment and Life Sciences  
Department of Environmental and Natural Resource Economics
EEC 528 Microeconomic Theory – change in prerequisites to read: ECN 328 and 375 or equivalent and concurrent registration in EEC 518, or permission of instructor.

2) College of the Environment and Life Sciences
   Department of Cell and Molecular Biology

MLS 571 Biotechnology Product Evaluation and Development – Request for online component of existing course.

3) College of Arts and Sciences
   Department of Computer Science and Statistics

CSC 591 Directed Study in Computer Science – change in prerequisites to read: permission of instructor.

CSC 592 Special Topics in Computer Science – change in prerequisites to read: …permission of instructor.

New Courses:

1) Graduate School
   Interdisciplinary Neuroscience Program

NEU 501 Introduction to the Neurosciences (4)
Introduction to basic neuroscience areas, including gross and Microscopic anatomy, neural development, membrane physiology, sensory and motor systems, language, cognition, neuropharmacology, neuroengineering, and psychological disorders. (Lec 3; Rec 1) Pre: Graduate standing and enrollment in INP or permission of instructor.

2) College of the Environment and Life Sciences
   Department of Cell and Molecular Biology

MLS 580 Quality Management Systems I: Org. and Leadership (4)
Application of quality management system basic principles as they relate to policy, decision-making and strategy development for laboratory leadership, including organization, policy and process development, information management, and personnel. Pre: Acceptance into the Medical Laboratory Quality Management Systems Graduate Certificate Program or permission of instructor.

MLS 581 Clinical Research (3)
This course will cover the drug development process, principles of good clinical practice, clinical trial phases (I-IV), key players in clinical research and associated regulatory strategies. Online course. Pre: graduate or upper undergraduate standing or permission of instructor.

MLS 582 Quality Management Systems II: Oper. and Tech. Man. (4)
Application of quality management system basic principles as they relate to policy, and strategy development for the support of laboratory technical operations, including
organizational structure, work design policy. Pre: Acceptance into the Medical Laboratory Quality Management Systems Graduate Certificate Program or permission of instructor.

Teaches the application of quality management system (QMS) relating to policy, decision-making and strategy development and oversight of quality activities. Pre: Acceptance into the Medical Laboratory Quality Management Systems Graduate Certificate Program or permission of instructor.

**Additional Curricular Matters**

1) College of Pharmacy

**MEMORANDUM**

Date: November 30, 2011

From: URI College of Pharmacy
Graduate Program Committee

To: URI Graduate School
Graduate Council

Subject: Justification for proposed revision of the pharmaceutical sciences graduate program (M.S. and Ph.D.)

In 2006, the College of Pharmacy faculty completed an extensive review of the graduate programs residing in the College. This effort resulted in the elimination of several graduate degree programs and the consolidation of the remainder into the Master of Science and Doctor of Philosophy programs in pharmaceutical sciences. In 2009, with the assistance of a URI Foundation mini-grant, the College developed a mission statement, vision, goals and objectives for this program. This structured process was the impetus for our 2010 initiative to review the pharmaceutical sciences program requirements and to better align our offerings with our stated goals and objectives. The document submitted to the graduate school in October 2011 represents the results of that effort.

The College had several overarching goals for this program revision, which are reflected in the proposal:

- Accelerate the progression of students from didactic instruction to their independent dissertation research. It is our intention to shorten the length of time for a student to complete our program.
- Allow for a more uniform and streamlined process for current Pharm.D. and B.S. (pharmaceutical science) students to enter the program.
- Take advantage of our evolving expertise in several facets of pharmaceutical science research to support a more innovative graduate program.
• Encourage more flexibility in a student Program of Study (POS) to meet individual learning objectives, while also enhancing cross-disciplinary training.
• Maintain our common course offerings required of all pharmaceutical sciences, particularly PHC 502 (Drug Development).

The pharmaceutical sciences program consists of four separate tracks. The following changes to program requirements in each track are proposed:

**Medicinal Chemistry and Pharmacognosy:** The new requirements do not differ significantly with regard to the required chemistry courses. The changes are primarily that (1) PhD students will be able to apply a greater number of research credits toward their degree, and (2) more flexibility is available for students to tailor didactic credits to meet their individual needs.

**Pharmaceutics and Pharmacokinetics:** Minimal changes to the program of study.

**Pharmacoepidemiology and Pharmacoeconomics:** Proposed changes reflect a need to better prepare students for their independent research by increasing the intensity of statistics and methodology prerequisites. The proposal includes requirements for twelve credits of STA or similar coursework.

**Pharmacology and Toxicology:** Changes allow for an increased variety of courses to be selected depending upon the student’s particular educational needs. Students must select at least three credits from each of three different “pools” of courses to assure a breadth of basic pharmaceutical sciences knowledge.

We understand that there were several specific questions presented by the Graduate Curriculum Committee.

1) Statement regarding tuition billing (“Credits taken for the MBA degree will be billed at the graduate course rate.”) – This statement was added at the request of our Doctor of Pharmacy Student Affairs Office to alleviate confusion by our joint Pharm.D. / MBA and joint Pharm.D. / MS students about their financial responsibility for graduate level coursework. There have been a number of instances where students have tried to take all required masters courses under the umbrella of their Doctor of Pharmacy coursework, essentially trying to obtain two degrees for the “price” of one. While we applaud the drive and creativity of these students, objections by Enrollment Services have resulted in extended negotiations and frustration for both students and program administrators. We are open to any alternatives that the Graduate Curriculum Committee might suggest.

2) Statement regarding PHC 699 (“Thirty-seven credits of PHC 699 and elective courses at the 500/600 level.”) - We agree that this statement is not necessary.

3) Qualifying Exam (QE) Format- Because of the extremely diverse areas of specialization by PhD candidates in the Pharmaceutical Sciences program, no single exam can be appropriate for all candidates. However, some standardized format for the QE is necessary. Therefore, the graduate faculty
voted unanimously to adopt a QE format similar to that required for the PhD in Oceanography. PhD candidates without a MS degree will be required to take a common course (PHC 502, Drug Development) and six credits selected from courses related to their area of specialization. Candidates must achieve a grade of B better in the selected courses. Thus, the students will be evaluated by several faculty for their ability to succeed in the PhD program, including by those in their chosen discipline.

Attached, please find an updated copy of the proposal with the PHC 699 statement in both the medicinal chemistry and pharmacology track requirements revised. Please feel free to contact us should you have further questions.

Pharmaceutical Sciences
M.S., Ph.D. (Pharmaceutical Sciences) 401-874-2789

Faculty

Medicinal Chemistry and Pharmacognosy: Professors Cho, Parang and Professor Emeritus Shimizu; Associate Professors King and Rowley, Assistant Professors Seeram and Udwary.

Pharmaceutics and Pharmacokinetics: Professors Akhlaghi, Kislalioglu, Lausier, Rosenbaum and Professor Emeritus Zia; Assistant Professors Lu and Worthen.

Pharmacoepidemiology and Pharmacoeconomics: Professors Larrat and Willey; Associate Professors Kogut and Quilliam; Clinical Associate Professor Marcoux.

Pharmacology and Toxicology: Professor and Chair Chichester; Professors Parang, Rodgers, Shaikh, Yan and Zawia; Associate Professor King; Assistant Professors Deng, Kovoor and Slitt.

Specializations

Medicinal Chemistry and Pharmacognosy: Molecular mechanisms of chemical carcinogenesis; mutation and repair; combinatorial chemistry; solid-phase peptide synthesis; screening, isolation and structure elucidation of biologically-active natural products; biosynthesis of microbial and plant natural products; herbal medicine, bioinformatics.

Pharmaceutics and Pharmacokinetics: Design, development, production, evaluation and regulatory approval of pharmaceutical and self-care products as well as pharmacokinetic and pharmacodynamic studies using virtual, clinical, and preclinical data, often with an emphasis on population approaches.

Pharmacoepidemiology and Pharmacoeconomics: Health and economic outcomes research pertaining to pharmacotherapy as used in human populations. Specializations include medication adherence, decision and cost-effectiveness analyses, post-marketing surveillance, epidemiologic methods, and quality improvement and measurement.
Pharmacology and Toxicology: Mechanisms involved in disease states and their pharmacological intervention, and mechanisms of toxicity of environmental agents. On-going topics include the effects of hormonal imbalances on cardiac function and metabolism in hypertension, biomarkers and treatment of arthritis, developmental neurotoxicity of environmental agents; drug metabolism and drug transporter, and the development of inhibitors to cell signaling events. Special emphasis is given to the use of novel instructional methods in pharmacology such as high fidelity human patient simulation.

Master of Science

Admission requirements: GRE scores; Pharm.D. or bachelor’s degree in pharmacy, chemistry, biological sciences or allied sciences; TOEFL (waived for applicants from countries where English is the primary language).

Program requirements: Successful completion of 30 credits of graduate study, including PHC 502, PHC 693/694 (2 credits), PHC 599, thesis.

For specialization in medicinal chemistry and pharmacognosy: BPS 545; Three credits of BPS 530, BPS 535, or BPS 587; Six to seven credits of BPS 525, BPS 551, BCH 581, BCH 582, CHM 427, CHM 520, CHM 521, or CHM 522; Six to nine credits of PHC 599; Four to seven elective credits in consultation with student’s major professor.

For specialization in pharmaceutics and pharmacokinetics: STA 409 or 411 or equivalent; Six to nine credits of 500- or 600-level BPS courses; Six to nine credits of PHC 599; Remaining elective credits at the 500/600 level in consultation with student’s major professor.

For specialization in pharmacoepidemiology and pharmacoeconomics: PHP 540, and PHP 550 or PHP 580; Six credits of STA 409, 411, or 412; Six to nine credits of PHC 599; Four to nine elective credits in consultation with student’s major professor.

For specialization in pharmacology and toxicology: At least 9 credits of BPS 587, BPS 546, BPS 641, BPS 530, BPS 535, BCH 581, or BPS 520; Three credits of BPS 422, BPS 521, BPS 525, BPS 545, BPS 644, BCH 582, or BPS 572; Three credits of BPS 503, BPS 533, BPS 555, BPS 551, or PHP 540; Six to nine credits of PHC 599; Remaining elective credits at the 500/600 level in consultation with student’s major professor.

Doctor of Philosophy

Admission requirements: GRE scores; master’s degree in pharmacy, chemistry, biological sciences or allied sciences, or bachelor’s degree in one of these areas with evidence of superior ability. Qualified students may be admitted directly to the Ph.D. program. A qualifying examination is required for candidates accepted without the master’s degree. This requirement is satisfied by completing, with a grade of B or better, PHC 502 and six credits from BPS 530, BPS 535, BPS 546, BPS 587, BPS 641, PHP 540, PHP 550 or PHP 580 within the first two academic semesters.

Program requirements: Successful completion of 72 credits of graduate study, including PHC 502, PHC 693/694 (3 credits), PHC 699, a qualifying exam, written and oral comprehensive examinations, and a dissertation. Students are expected to attend and participate in the departmental seminars during their entire tenure in the Ph.D. program.
For specialization in medicinal chemistry and pharmacognosy: BPS 545; Six credits of BPS 530, BPS 535, or BPS 587; Nine to ten credits of BPS 525, BPS 551, BCH 581, BCH 582, CHM 427, CHM 520, CHM 521, or CHM 522; Additional course credits at the 500/600 level (including up to 3 credits of BPS 520) must be selected in conjunction with major professor and/or doctoral committee. All students are required to complete a minimum of 30 credit hours in courses other than those deemed to carry research, independent study, or directed study credits.

For specialization in pharmaceutics and pharmacokinetics: Four credits of PHC 693/694, STA 411 or equivalent, a 500-level statistics course, BPS 503. Additional course credits must be selected in conjunction with major professor and/or doctoral committee. All students are required to complete a minimum of 30 credit hours in courses other than those deemed to carry research, independent study, or directed study credits. Pharmacokinetics students must successfully complete BPS 530 and BPS 670.

For specialization in pharmacoepidemiology and pharmacoeconomics: PHP 540, PHP 550, and PHP 580 or PHP 640; Six credits of STA 409, 411, or 412; Six credits of STA 502, PSY 533, STA 535, STA 536, STA 541, or STA 542; Thirty-six credits from either PHC 697, PHC 698 or PHC 699, or additional 500/600 level elective courses determined in consultation with the major professor; Elective credits in consultation with student’s major professor. Tutorials may be arranged in areas of special interest to the student, in consultation with student’s major professor.

For specialization in pharmacology and toxicology: BPS 587, BPS 546, BPS 530, BPS 535, BPS 641, BCH 581 and BPS 520; Six credits of BPS 501, BPS 422, BPS 521, BPS 525, BPS 545, BPS 644, BCH 582, or BCH 642; Three credits of BPS 503, BPS 533, BPS 555, BPS 551 and PHP 540.

**Students transferring 30 credits from MS degree:** Students transferring 30 credits from an MS degree program must complete a minimum of 12 course credits, excluding PHC 693/694, PHC 599 and special problems courses, selected in consultation with the major advisor.

### Joint Doctor of Pharmacy / Master of Business Administration Program

The University of Rhode Island Colleges of Pharmacy and Business Administration offer a joint program that allows students the opportunity to develop management and administrative skills as they study for the Doctor of Pharmacy (Pharm.D.) degree. This program qualifies individuals to assume leadership and management roles in the health care industry. A unique combination of management and pharmacy coursework, coupled with innovative practicum experiences, provides students with a knowledge base of theoretical and applied information. The joint program requires the student to complete a total of 224 credits.

Students enrolled in the Doctor of Pharmacy program are eligible to apply for admission to the joint program after their second professional year (by July 15). The following are required at that time: GMAT, statement of purpose, resume, two letters of recommendation, TOEFL (waived for applicants from countries where English is the primary language). Credits taken for the MBA degree will be billed at the graduate course rate.

### Joint Doctor of Pharmacy / Master of Science Degree Program

The University of Rhode Island College of Pharmacy offers a joint program that allows students the opportunity to pursue the Master of Science degree while studying for the Doctor of Pharmacy degree. Students may elect to study in any one of the four specialization areas described in the graduate
program: medicinal chemistry and pharmacognosy, pharmaceutics and pharmacokinetics, pharmacoepidemiology and pharmacoconomics, pharmacology and toxicology.

This program is designed for highly-qualified and motivated students who are interested in simultaneously pursuing the Pharm.D. and M.S. degrees. Students are expected to complete the Pharm.D. program as described in the catalog. In addition, students must complete all additional credits required for the M.S. degree, complete a research project, and write and defend a thesis. It is expected that the motivated student will be enrolled during the summer sessions after the fourth, fifth and six years with the objective of completing both degrees at the same time or in one additional semester.

Students enrolled in the Doctor of Pharmacy program are eligible to apply for admission to this joint degree program in the second semester of their first professional year (by May 1st). The following are required at that time: statement of purpose, resume, two letters of recommendation. Credits taken for the masters degree will be billed at the graduate course rate.

B. New Programs Committee

I. Cyber Security Certificate proposal (please see the attached proposal and the attached budget review)

II. The current requirement for post-baccalaureate certificates is that they require no new courses. This stipulation was in the original legislation enabling the institution of post-baccalaureate certificates. Should this be revisited?

VI. Old Business

A. Proposed addition of one sentence to Section 8.32 of the Graduate School Manual (proposed sentence underlined)

8.32. All major professors must be continuing, tenure-track members of the University of Rhode Island Graduate Faculty. Adjunct faculty cannot serve as sole major professors on thesis or dissertation committees. In cases where co-major professors are deemed necessary and appropriate, one, but not both of the two co-major professors could be an adjunct faculty member who carries Graduate Faculty Status at the University of Rhode Island. Student committees with co-major professors require a minimum of four faculty; the co-major professors, another member in the same discipline and/or department as the student, and another member from an outside area unless specifically approved by the Dean of the Graduate School. At least one of the co-major professors must be from the student’s home department/program. Upon recommendation by the department Chair, major professors will be appointed by the Dean of the Graduate School to carry out the duties noted in the following paragraphs.

B. The 2012 Scholarship/Fellowship Awards competition; timeline and process.

C. Policies surrounding Graduate Faculty Status (GFS) – should newly hired tenure-track faculty holding the degree of Ph.D. automatically become members of the Graduate Faculty? GFS could still be removed at a later date if deemed appropriate by the Council, and the stipulation would still remain
that faculty with a terminal degree other than the Ph.D. could not serve on Ph.D. committees.

D. The suggestion was made at the recent Graduate School Retreat to place a hold on a student’s enrollment if they have completed 15 credits of coursework, but have yet to submit an approved Program of Study. We would like to discuss this possibility.

E. A.C.E. Language Institutes and their potential relationship to graduate education at URI.

VII. Policy Issues and Initiatives

A. Should the Graduate School accept an undergraduate degree from the University of Phoenix as an acceptable credential for entry into the Graduate School at URI?

VIII. New Business

IX. Adjournment