UNIVERSITY OF RHODE ISLAND
THE GRADUATE SCHOOL

To: Members of the 2009-2010 Graduate Council

From: Nasser Zawia, Interim Dean

Date: 7 April 2010

RE: Agenda for Meeting Number 445 of the Graduate Council to be held on Monday 12 April 2010 at 2:00 p.m. in the conference room of the Alumni Center

I. Call to Order

II. Approval of Minutes of Meeting Number 444 held on 15 March 2010

III. Announcements

A. Recent appointments to the Graduate Faculty (∗ awarded Adjunct Faculty status)
   ♦ Robinson Fulweiler, Adjunct Professor, Graduate School of Oceanography
   Furong Xu, Assistant Professor, Department of Kinesiology
   Jaime Dice, Assistant Professor, Department of Human Development and Family Services- HDF

B. Update on Scholarship and Fellowship awards

C. Update on Graduate Program Assessment

D. Brief discussion on timing for 2010-2011 meetings

E. Thanks and Appreciation extended to Council members, with a special thanks to those members whose term of service expires this year:
   • William Rosen
   • Henry Schwarzbach
   • Cynthia Willey-Temkin
   • Beth Marcoux
   • Gary Stoner

IV. Committees
A. Curriculum Committee
(Curricular material is available at http://www.uri.edu/gsadmis/gradCourseProposals)

I. 400 – level courses

Changes

1) College of Arts and Sciences

   Department of Sociology and Anthropology

   SOC 420 Family Violence (3) – change in prerequisites to read: SOC major, junior or senior standing, or permission of instructor

   SOC/PSC 476 Policy Issues in Criminal Justice (3) – change in prerequisites to read: Pre: SOC or PSC major, senior standing, or permission of instructor.

Department of Chemistry

   CHM 427 Intermediate Organic Chemistry (3) – change in catalog description and prerequisites to read: Intermediate organic chemistry with emphasis on organic reaction mechanism, stereochemistry, spectroscopic characterization, and newer synthetic methods. (Lec. 3) Pre: 226 and 228 with grade of C- or better or 292 with grade of C- or better.

   CHM 431 Physical Chemistry I (3) – change in catalog description and prerequisites to read: Gas laws, laws of thermodynamics, chemical equilibrium, phase equilibria, and electrochemistry. (Lec. 3) Pre: 112 and 114 with grade of C- or better or 192 with grade of C- or better and MTH 142 with grade of C- or better and PHY 112 or 204. May be taken for graduate credit by graduate students whose undergraduate programs do not require physical chemistry.

   CHM 432 Physical Chemistry II (3) – change in catalog description and prerequisites to read: Atomic theory, quantum chemistry, bonding, molecular interactions, chemical kinetics, kinetic theory, and spectroscopy (Lec. 3) Pre: 431 with grade of C- or better. May be taken for graduate credit by graduate students whose undergraduate programs do not require physical chemistry.

New Courses:

1) College of Arts and Sciences

   Department of Sociology and Anthropology
**APG/SOC 415 Migration in the Americas (3)**
The course examines contemporary trends in migration in the Americas with a focus on migratory flows from Latin America to the United States. Areas to be covered are migration theories, unauthorized migration, anti-immigration discourses, inter-migration in Latin America, gender dynamics, transnationalism, refugees and the internally displaced, and immigration policies in the Americas. Pre: open only to juniors, seniors and graduate students

II. 500/600-level courses

**Changes**

1) College of Human Science and Services
   
   Department of Human Development and Family Studies

   **HDF 500 Human Development Seminar (3)** – eliminate

   Department of Speech and Language Pathology

   **CMD 582 Motor Speech Disorders (3)** – change in prerequisites to read: Graduate standing and a neuroanatomy course or concurrent registration in CMD 377

   School of Education

   **EDC 586 Problems in Education (1-3)** – topic to be added to catalog: Thinking Math II

   **EDC 586 Problems in Education (1-3)** – topic to be added to catalog: Building Teams & Leading Change

2) College of Arts and Sciences

   Department of Chemistry

   **CHM 521 Advanced Organic Chemistry I (3)** – change in catalog description to read: Emphasis on the structures, reactivities, and syntheses of organic molecules. (Lec 3) Pre: 226 and 228 or equivalent.

   **CHM 522 Advanced Organic Chemistry II (3)** – change in catalog description and prerequisites to read: Advanced fundamental organic chemistry including mechanism,
synthesis, organometallics, bio-organic, organic materials, and/or molecular recognition. (Lec 3) Pre: 427 or 521 or equivalent.

**New Courses**

1) College of Human Science and Services

Department of Human Development and Family Studies

**HDF 501 Developmental Science in Family Contexts (3)**
Critical analysis of developmental science theories and related contemporary research. Using a lifespan perspective, the course will examine individual and family theories of development, and consider relevant practice and research implications. Pre: Graduate standing or permission of instructor.

2) Graduate School of Oceanography

**OCG/GEO 525 Chemistry of the Earth (3)**
Analysis of the solid Earth, ocean and atmosphere as a geological/chemical/biological system. Fundamentals of geochemistry will be developed within the context of broad Earth science questions: Earth formation, differentiation, evolution and human impacts. Pre: Graduate or advanced undergraduate standing in a science major or permission of instructor.

**OCG 555 Modern oceanographic imaging & mapping techniques (3)**
Overview of current imaging and mapping techniques used in oceanography and ocean engineering including; photographic and laser imaging, side scan and multibeam sonar; underwater vehicle navigation and map making. Pre: Undergraduates - OCE 471 or permission of instructor Graduate students - None, this is an overview course appropriate for science focused graduate students.

**Matters for Approval**

1) College of the Environment and Life Sciences

Department of Marine Affairs

The addition of a non-thesis option to the Master of Arts in Marine Affairs

The Graduate Council has asked Marine Affairs to consider some changes to its proposal to merge its two master degrees. Part of our proposal included allowing all students to choose a non-thesis option. The Graduate Council does not have any problem with that portion of the proposal. Thus, MAF would like to sever the expansion of the non-thesis option from the rest of the proposal so that we can go forward with that change while we consider the Graduate Council’s suggestions concerning the joining of the two degrees.
Below is the existing catalog language with the proposed changes in blue.

**2009-2010 catalog with proposed changes in blue.**

**Master of Arts (M.A.)**

*Admission requirements:* GRE and bachelor’s degree in related science or social science. For international students, minimum TOEFL scores on the iBT as follows: Reading, 20, Writing 22, Listening 17, and Speaking 17 (total of 213 CBT or 550 PBT). Full-time applicants are admitted for the fall semester only.

*Program requirements:* thesis or a major paper and MAF 482, 502, 577, 651; MAF 511 or appropriate oceanography substitute; EEC 514 or appropriate resource economics substitute; plus a minimum of 21 elective credits for a total of 45 credits. Students who elect to do a major paper (MAF 589) will also be required to pass a written comprehensive exam.

2) College of the Arts and Sciences

Department of Mathematics

*Proposal for modifying the Mathematics Ph.D. Program*

The change in program was incited by the Board of Governors Review and subsequent designation of the Applied Mathematical Sciences Ph.D. (AMS) and Mathematics Ph.D. (MTH) Programs as programs recommended for consolidation. For your convenience, please find an attached copy of the Memo from Vice Provost Dean Libutti to Dean of Arts and Sciences Winifred Brownell, dated November 9, 2009, and the attached copy of one page of the URI Academic Program Review Status dated November 9, 2009.

The main modification to the Mathematics Ph.D. Program consists of the addition of a new track called Applied Mathematics. Other small changes were made to the Mathematics Ph.D. Program description, in order to update requirements and help to distinguish one track from the other. Please see the attached documents "Modification of the Mathematics Ph.D. Program Proposal January 2010" and "Department of Mathematics Doctor of Philosophy Program".

*Modification of the Mathematics Ph.D. Program Proposal- January 2010*

In the 2008 Academic Program Review of the RI Board of Governors, the Applied Mathematical Sciences Ph.D. (AMS) and Mathematics Ph.D. (MTH) programs were triggered for further review. Subsequently, these two programs were recommended for consolidation as stated in the document *URI Academic Program Review Status* dated November 9, 2009. The Graduate committee of the Mathematics Department believes that the consolidation of the two programs is best achieved by the addition of an Applied Mathematics track to the current Mathematics Ph.D. program (which will be referred to as the Pure Mathematics track from now on).
The Graduate Committee of the Mathematics Department performed a comparison of applied mathematics programs at several institutions, similar to URI. Some of these universities had multiple programs and some had multiple tracks within one program. Most programs of other institutions explicitly offer a Ph.D. in Mathematics with both a pure and applied tracks. Establishing a track in applied mathematics in the current Ph.D. Program in Mathematics is in agreement with established and tested institutional practices. In addition, it is the most efficient way to consolidate the two programs, since it uses resources that are already available.

The Applied Mathematical Sciences track in the Mathematics Ph.D. Program will be a vehicle for obtaining a degree in interdisciplinary areas involving mathematics. The graduate faculty in this track will consist of both faculty in Mathematics as well as other departments. Some courses in support of such an interdisciplinary program are already in place, for example, cross-listed courses such as MTH/CSC 547 - *Combinatorics*, MTH/CSC 548 - *Graph Theory*, and MTH/ELE 575 - *Approximation Theory and Applications to Signal Processing*. Many other existing courses in other departments are suitable candidates to be cross-listed. The Mathematics Ph.D. Program with the Applied Mathematics track, will be supported by the fourteen graduate faculty in the Mathematics Department and professors from other departments, who will be included in the graduate faculty for the program.

**Department of Mathematics**  
**Doctor of Philosophy Program**

Two tracks are offered: Pure Mathematics and Applied Mathematics. A total of 72 credits are required. Of these, 18 credits of thesis work (MTH 699) are required.

The student, in conjunction with the Graduate Committee, will select a research advisor (major professor) from the Graduate Faculty of the Mathematics Department within the first year of the Ph.D. program. At this time, the student's doctoral committee is selected and the Program of Study is carefully prepared by the student with his or her major professor. The Program of Study must be approved by the student's doctoral committee, the Department Chairperson, and the Dean of the Graduate School. Soon after that, in a similar manner, the Dissertation Proposal must be prepared and approved.

The candidate shall successfully defend his or her dissertation in an oral defense. This is an oral exam, usually two hours long, administered by his or her dissertation defense committee composed of the doctoral committee and two additional members approved by the Graduate School.

The Department of Mathematics requires that doctoral candidates have reading proficiency in mathematical French, German, or Russian. The specific requirement to be satisfied is to be determined by the major professor.

**Ph.D. Comprehensive Examination**
Shortly before the completion of formal course work, each doctoral candidate shall take the Ph.D. Comprehensive Examinations. These consist of a 10-hour written part to be taken over eight days and, on successful completion of the written part, an oral part (normally within four weeks). The exam is to be taken by the student within the first six semesters of enrollment in the Ph.D. Program. The rules governing the content of the written exam vary depending on which subprogram is being pursued - see below.

The preparation, administration, and evaluation of the written comprehensive examination are the responsibility of the student's research advisor, the doctoral committee, and other department members assigned by the doctoral committee. Unanimous approval of all members of the doctoral committee is required for passing. It is the responsibility of the major professor to request the permission of the Dean of the Graduate School to schedule the exams and inform the Graduate School about the results.

The oral part of the comprehensive examination is two hours long and is conducted by the oral comprehensive examination committee, which consists of the doctoral committee with two additional members approved by the Graduate School. It is the responsibility of the major professor to request the approval of the Dean of the Graduate School to schedule the oral comprehensive examination and inform the Graduate School about the results.

Consult the Graduate Student Manual, Section 7.57, for procedures, which must be followed to schedule both parts of the comprehensive examination. In case of failing the whole or a portion of the comprehensive examination the student may be permitted one reexamination if so recommended by the examining committee and approved by the Graduate School.

The Pure Mathematics Track

Required Courses: 515, 516, 525, 535, 536, and 562.

Candidates without a Master of Science Degree in Mathematics

- At most 15 credits may be taken at the 400-level. Subject to the approval of the Chair and Graduate Program Director, at most 12 credits can be taken outside of the Mathematics Program (MTH).
- The M.S. Qualifying Exam must be passed, in MTH 435, MTH 436, and MTH 513.

Candidates with a Master of Science Degree in Mathematics

- Prerequisites: 435, 436, 513.
- Up to 30 credits may be transferred to the Ph.D. Program for a Masters Degree in Mathematics. For such students, all but at most 6 credits of their remaining credits must be for Mathematics courses (MTH) at the 500-level or higher.

Ph.D. Comprehensive Examination
The written part covers the material corresponding to 10 courses, which are selected by the student's major professor, according to the rules below. With the permission of the Department Chair and Graduate Program Director, MTH 435 and MTH 436 may be waived, in which case 8 courses are required.

- The exam must cover MTH 435, MTH 436, MTH 513, MTH 515, MTH 535, and MTH 536.
- One course must be selected from among: MTH 516, MTH 525, MTH 562.
- The remaining 3 courses will be 500-level or higher and usually related to the subject of the student's thesis.
- No course can count as meeting 2 requirements.

The Applied Mathematics Track
Areas of concentration are determined by the research interests of the graduate faculty in the Program (this includes members of other departments who are designated as Graduate Faculty in Applied Mathematics). Consult the Mathematics Department's webpage for the current research interests of the Graduate Faculty.

Candidates without a Master of Science Degree

- At most 15 credits may be taken at the 400-level. All but 24 of the 54 non-dissertation credits must be in Mathematics (MTH).
- An area of concentration is selected from among the research areas of the Graduate Faculty of the Program. Up to 24 credits for courses in this area of concentration may be applied to this degree. The criteria for selection are that they must have the course code of the selected area and must be verified by the major professor to be courses, which have a significant math component.
- The M.S. Qualifying Exam must be passed in MTH 435, MTH 436, and MTH 513.

Candidates with a Master of Science Degree in Math or a Closely Related Area

- Up to 30 credits may be transferred to this Program for a Master of Science Degree in mathematics or an area closely related to mathematics. For such students, all of their remaining credits must be for courses at the 500-level or higher, with at most 12 credits outside of Mathematics (MTH).
- An area of concentration is selected from which up to 12 credits for courses may be applied to this degree. The criteria for selection are that they must have the course code of the selected area and must be verified by the major professor to be courses, which have a significant math component.

Ph.D. Comprehensive Examination

- The written part covers the material corresponding to 10 courses, which are selected by the student in consultation with their major professor, according to the rules below. With the permission of the Department Chair and Graduate Program Director, MTH 435 and MTH 436 may be waived, in which case 8 courses are required.
  - The exam must cover MTH 435 and 436.
o The exam must cover either MTH 535 and 536 or MTH 629 and 630.

o Two courses must be selected from among: MTH 513, MTH 515, MTH 535, MTH 545, MTH 547, MTH 548, MTH 629, one of which must be either MTH 513 or MTH 515.

o The remaining 4 courses will be 500-level or higher and usually related to the subject of the student's thesis.

o No course can count as meeting 2 requirements.

B. Graduate Manual Revision Committee

Review of section 12, Appendices, and section 11.28

V. New Business

A. Review of graduate courses to be deleted because they were not offered for two years and not scheduled for the third year.

B. Review of policy of application fees

C. Review policy of deleting graduate courses not offered for two years and not scheduled for the third year.

VI. Old Business

VII. Adjournment