University of Rhode Island
The Graduate School
Graduate Council Meeting No. 444, 15 March 2010
MINUTES

Council Members Present: Lori Ciccomascolo, Nancy Eaton, Graham Forrester, Brian Gallagher, Wayne Lee, Beth Marcoux, Mary Sullivan, John Szczepanski, Ryan Trimm, Liz Smith

Others Present: Associate Dean Keith Killingbeck, Ms. Megan Verry, Leonard Kahn, Scott McWilliams, David Laux, Robert Thompson

I. The meeting was called to order at 2:06 p.m. by Interim Dean Zawia

II. The Minutes of Meeting No. 443 were approved.

III. Announcements

A. Associate Dean Killingbeck noted the recent appointment to Graduate Faculty status as well as those granted Adjunct Faculty status, which is denoted by a ♦.

♦ Richard Harnett, Adjunct Professor, Department of Electrical, Computer, and Biomedical Engineering
♦ Ashin Sarma, Adjunct Assistant Professor, Department of Electrical, Computer, and Biomedical Engineering
Ian Reyes, Assistant Professor, Department of Communication Studies
John Mottinger, Professor Emeritus, Department of Cell and Molecular Biology
William Kovacs, Professor Emeritus, Department of Civil and Environmental Engineering
Lisa Weyandt, Associate Professor, Department of Psychology
Kyle Kusz, Associate Professor, Department of Kinesiology
Silas Pinto, Adjunct Assistant Professor, Department of Psychology
Aftab Ahmed, Professor, Department of Biomedical and Pharmaceutical Sciences
Annette Grilli, Assistant Professor, Department of Ocean Engineering
Eugene Park, Research Professor, Department of Electrical, Chemical, and Biomedical Engineering
David Orwig, Adjunct Associate Professor, Department of Biological Sciences
♦ Moshen Badiey, Adjunct Professor, Department of Ocean Engineering
Tiffani Kisler, Assistant Professor, Depart of Human Development and Family Services
♦ Brian Bronk, Adjunct Professor, Department of Chemistry
Robert Vanderslice, Adjunct Associate Professor, College of Nursing

B. Associate Dean Killingbeck extended the deadline for nominations for the excellence in doctoral research awards to 1 April, 2010, encouraging Council members to extend this information to their departments and nominate those candidates they felt qualified.
Due to the length of the meeting and number of presentations to be held during this meeting, some items were discussed in an order other than that which was presented on the agenda.

V. B. Associate Dean Killingbeck proposed a minor edit to the general policy and wording for Eligibility to March in Graduate Commencement, which was passed. The approved edited version is below:

**Policy for Determining Eligibility to March in Graduate Commencement of Year x***

√ Those who have completed their degree requirements by August (x minus 1), December (x minus 1), or May x

√ Those who will have completed their course work during or before the Spring x semester and will have successfully defended their dissertations/theses (if a dissertation or thesis is required) by the appropriate Friday in April x listed in the Graduate School deadline calendar

√ Those in programs with required internships who will have completed their course work during or before the Spring x semester, will have successfully defended their dissertations/theses (if a dissertation or thesis is required) by the appropriate Friday in April x listed in the Graduate School deadline calendar and will have completed their internships by 15 September x

* x = the year in which commencement occurs. If x = 2009, then x minus 1 = 2008.

IV. **Committee Reports**

A. New Program Committee

Council member Rebecca Robinson presented the proposal received by the New Program Committee for a new Medical Physics – 5-year accelerated BS/MS program. Leonard Kahn from the Physics Department was on hand to present a more detailed explanation of the reasoning behind the program as well as to answer any questions that the Council presented. Council approved the new program.

B. Curriculum Committee

**New Courses Approved**

ELE 470 Mobile Computing (3)  
ELE 561 Physiological Modeling and Control (3)  
PHY 545 Nanotechnology in Imaging and Therapy (3)  
PHY 550 Introduction to Radiation Physics and Dosimetry (3)  
PHY 552 Radiobiology (3)
Additional Matters Approved

1) College of the Environment and Life Sciences

Various Departments

The motion to approve was unanimous

Proposal for the consolidation of two Ph.D. programs and four M.S. programs in the College of the Environment and Life Sciences

The College of the Environment and Life Sciences currently offers a broad portfolio of M.S. and Ph.D. programs. This proposal focuses on changes to two of the Ph.D. graduate programs, Biological Sciences and Environmental Sciences, and four of the M.S. graduate degree programs, Biological Sciences; Cell & Molecular Biology; Environmental Sciences; and Fisheries, Animal & Veterinary Science. We propose the following changes to these two Ph.D. and four M.S. degree programs:

- the two existing Ph.D. degree programs, Biological Sciences and Environmental Sciences, would be consolidated to form one interdisciplinary Ph.D. program in Biological & Environmental Sciences (BES-Ph.D.);
- the four existing M.S. degree programs, Biological Sciences; Cell & Molecular Biology; Environmental Sciences; and Fisheries, Animal & Veterinary Science, would be consolidated to form one interdisciplinary M.S. program in Biological & Environmental Sciences (BES-MS);
- both the M.S. and Ph.D. Biological & Environmental Sciences (BES) graduate degree programs would have four interdisciplinary areas of specialization – Cell & Molecular Biology (CMB), Integrative & Evolutionary Biology (IEB), Ecology & Ecosystem Sciences (EES), and Environmental & Earth Sciences (EVES).

Rationale. Research-based graduate programs in CELS should be organized on the basis of research and outreach strengths, critical mass of faculty, and common goals of graduate student training. Consolidation of the four M.S. and two Ph.D. programs described above into one interdisciplinary M.S., and one interdisciplinary Ph.D. program in Biological & Environmental Sciences, will broaden student perspectives while training them in their specific disciplines, allow students to be part of a larger community of scholars with similar scientific interests, and stimulate interdisciplinary research that generates new knowledge and funding opportunities.

The proposed M.S. and Ph.D. programs in Biological & Environmental Sciences include faculty from a diverse set of departments in CELS including Biological Sciences; Cell and Molecular Biology; Fisheries, Animal and Veterinary Science; Geosciences; Natural Resources Science; Nutrition and Food Sciences; and Plant Sciences; as well as faculty from the Graduate School of Oceanography. As such, the BES programs provide an opportunity for faculty to move across the traditional departmental boundaries when conducting their research and training their students; provide more opportunities for interdisciplinary research and graduate programs; allow more flexibility in the administration of graduate
education and research within CELS, thus allowing faculty to take advantage of emerging research areas and funding opportunities in a timely and effective manner; and allow faculty participating in a given undergraduate degree program to train graduate students and conduct research in other areas.

Requirements. The program requirements for the M.S. and Ph.D. programs in Biological & Environmental Sciences (BES) are based on the M.Sc. and Ph.D. requirements specified by the Graduate Manual and are intended to allow flexibility in the design of individual programs of studies and promote interdisciplinary interactions between the various areas of specialization.

Implementation. The effective date for implementation would be Fall 2010. Students currently enrolled in the existing programs and students entering these programs in the 2010-2011 academic year would be given the option of completing the existing programs or transferring to the Biological & Environmental Sciences M.Sc. and Ph.D. programs. No additional resources are required for the implementation of these programs and there will be no impact on library resources.

Catalog Description of the Graduate Degrees:

Master of Science (MS) and Doctor of Philosophy (PhD) in Biological & Environmental Sciences (BES)
The MS and PhD in Biological & Environmental Sciences (BES) are interdisciplinary, interdepartmental graduate degrees that involve faculty from a diverse set of departments in CELS including Biological Sciences; Cell & Molecular Biology; Fisheries, Animal & Veterinary Science; Geosciences; Natural Resources Science; Nutrition & Food Sciences; and Plant Sciences, as well as faculty from the Graduate School of Oceanography. Contact information and a list of faculty in each of these departments are provided below. Students accepted into the MS and PhD degree programs in Biological & Environmental Sciences are organized into graduate specialization groups that include Cell and Molecular Biology (CMB), Integrative and Evolutionary Biology (IEB), Ecology and Ecosystem Sciences (EES), and Environmental and Earth Sciences (EVES). These graduates specialization groups are described in more detail below, along with the admissions and degree requirements for MS and PhD students in Biological & Environmental Sciences. Prospective students are encouraged to contact individual faculty to learn more about graduate research opportunities.

Departments in CELS that train graduate students in Biological & Environmental Sciences Biological Sciences 401.874.2373, http://www.uri.edu/cels/bio/ Faculty: Professor Goldsmith, chair; Associate Professor Wilga, director of graduate studies. Professors, Bengtson, Bullock, Fastovsky, Kass-Simon, Killingbeck, Koske, A. Roberts, and Webb; Associate Professors Katz, Irvine, Norris, Seibel, and Wilga; Assistant Professors Lane, Preisser, and Thornber; Adjunct Professors Carlton, Deacutis, Fogarty, Henry, Lauder, Sanford, and Schneider; Adjunct Associate Professors Bailey, Cromarty, Ewanchuk, Gemma, Orwig, T. Roberts, and Thursby; Adjunct Assistant Professor Raposa; Professors Emeritus Albert, Beckman, Bibb, Caroselli, Cobb, Costantino, Goertemiller, Goos, Hammen, Harlin, Hauke, Hyland, Lepper, and Twombly; Associate Professor Emeritus Krueger; Research Professors Heppner and Hill.

Cell and Molecular Biology 401.874.2201, http://cels.uri.edu/cmb
Faculty: Professor Sperry, chair; Professor Nelson director of graduate studies. Professors Chandlee, Cohen, Hufnagel, Kausch, Paquette, and Sun; Associate Professor Martin; Assistant Professors Howlett and Jenkins; Research Professors A. de Groot, L. de Groot, and Spero; Research Assistant Professor Moise; Professors Emeritus Laux and Mottinger.


Faculty: Professor Bengtson, chair; Professor Gomez-Chiarri, director of graduate studies. Professors Bradley, Costa-Pierce, DeAlteris, Mallilo, Rhodes, and Rice; Assistant Professors Peterson and Sartini; Adjunct Professors Hoey, Klein-MacPhee, Musick, Serra, and Smolowitz; Adjunct Associate Professors Colwill and Hare; Adjunct Assistant Professors Brumbaugh, Castro, Dudzinski, Gleason, Hancock, Leavitt, Rheault, Petersson, Schwartz, and Wetherbee; Professor Emeritus Chang and Recksiek.

Geosciences 401.874.2265, http://uri.edu/cels/geo

Faculty: Associate Professor Veeger, chair; Associate Professor Boving, director of graduate studies. Professor and State Geologist Boothroyd; Professors Cain and Fastovsky; Assistant Professor Savage; Adjunct Professors Burks, Fischer, and Spiegelman.

Natural Resources Science 401.874.2495, http://www.nrs.uri.edu

Faculty: Professor Paton, chair; Professor Golet, director of graduate studies. Professors Amador, August, Forrester, Gold, Husband, McWilliams, Stolt, and Wang; Assistant Professors F. Meyerson and L. Meyerson; Adjunct Professors Lashomb, Paul, Perez, and Rockwell; Adjunct Associate Professors Abedon, Cerrato, Gorres, Groffman, Jarecki, Nowicki, and O’Connell; Adjunct Assistant Professors Bergondo, Buffum, Dabek, Daehler, Eisenbies, Eldridge, Farnsworth, Gayaldo, Hollister, Kellogg, McKinney, Milstead, Mitchell, Peters, Rubenstein, Saltonstall, Steele, and Tefft.


Faculty: Professor English, chair; Professor Greene, director of graduate studies. Professors Fey-Yensan, Lee, and Patnodd; Associate Professors Gerber and Melanson; Assistant Professor Lofgren; Adjunct Professor Sebelia; Adjunct Associate Professor Pivarnik.


Faculty: Professor Maynard, interim chair; Professor Mather, director of graduate studies. Professors Alm, Casagrande, LeBrun, Rumelele, and Sullivan; Associate Professors Englander and Mitkowski; Assistant Professor Brown; Professors Emeriti Beckman, Beckman, Hull, and Jackson; Professor in Residence Ginsberg; Adjunct Assistant Professor Gettman.

Graduate Specialization Groups

Cell and Molecular Biology (CMB): this graduate research group focuses on the molecular basis of life offering solid foundations in biochemistry, microbiology, and molecular genetics with an emphasis on interdisciplinary training. Faculty research interests are diverse and include the molecular basis of microbial colonization and virulence; the biochemistry of cellular signaling; the molecular origins of cancer; the development of vaccines against infectious disease; the roles of microbial consortia in the marine environment; comparative and evolutionary genomics; the control of gene expression by endogenous and environmental signals; the genetics of marine organisms; the molecular biology
and genetic modification of plants; agricultural biotechnology; and developmental gene regulation.

**Integrative and Evolutionary Biology (IEB):** this graduate group focuses on the diversity of form and function of organisms from evolutionary and physiological perspectives, as well as the application of these approaches to health, agriculture, and the environment. Faculty research interests are diverse and include animal science (including reproduction, nutrition, management and health), aquaculture (including ecology, physiology, nutrition and health), cellular and behavioral neurobiology (including sensory biology and neuroethology), evolutionary biology, genomics (comparative, evolutionary and marine), morphology and development (including functional morphology, biomechanics and evolutionary developmental biology), paleontology, physiology and pathology (including environmental, stress, reproductive and comparative physiology, endocrinology, aquatic pathology), plant biology, and human health.

**Ecology and Ecosystem Sciences (EES):** this graduate research group focuses on patterns and processes within and among populations, communities, and ecosystems. Faculty research interests are diverse and include ecological studies across the spectrum of biological organization (molecular, organismal, population, community, ecosystem, and landscapes) that focus on the intra- and interspecific interactions of microbes, algae, plants, insects, invertebrates and vertebrates that inhabit a variety of terrestrial, coastal, freshwater, and marine ecosystems. Much of this research addresses important environmental issues with implications for public policy such as the ecology of endangered species and habitats, the biological control of algal blooms, invertebrate pests, parasites and disease, anthropogenic nutrient enrichment and bioremediation, ecohydrology of coastal wetlands, landscape change, climate change, invasive species, fisheries, and habitat restoration.

**Environmental and Earth Sciences (EVES):** This graduate research group focuses on the history, function and condition of Earth’s environments from local to global scales. Faculty research interests encompass all aspects of the natural sciences including geology, biogeochemistry, hydrology, soil science, assessment of biodiversity, microbial ecology and global change. Most of this research uses combinations of geospatial data technologies, computer modeling, state-of-the-art analytical instruments and field investigations to advance our knowledge of Earth processes and the management of water resources, shorelines, wetlands, and terrestrial landscapes to sustain healthy environments and to rehabilitate and restore damaged environments.

**Admission and Program Requirements Master of Science in Biological & Environmental Sciences (MS in BES)**

**Admission Requirements:** Graduate Record Examination general test and a bachelor's degree in a biological or physical science, natural resources science, math, engineering or other appropriate discipline. Applicants with course deficiencies may be required to take additional undergraduate courses for no program credit, and to demonstrate, by their performance in such course work or through a qualifying exam, basic knowledge of the subject matter in the area(s) of deficiency.

**Program requirements:** a minimum of 30 credits beyond the bachelor’s degree. This includes a minimum of 6 and a maximum of 9 thesis credits (599 courses), a
minimum of 18 credits of formal course work, and a maximum of 6 credits in special problems and directed studies courses.

**Doctor of Philosophy in Biological & Environmental Sciences (PhD in BES)**

*Admission Requirements:* Graduate Record Examination general test and a bachelor's degree in a biological or physical science, natural resources science, math, engineering or other appropriate discipline. Applicants with course deficiencies may be required to take additional undergraduate courses for no program credit.

*Program requirements:* a minimum of 72 credits of graduate study beyond the bachelor’s degree (a master’s degree may count for up to 30 credits). At least 42 credits must be taken at University of Rhode Island. Required coursework and dissertation credits depend on the preparation and study plan of the individual student. All degree candidates are required to prepare a program of study in consultation with their major professor and doctoral committee. Written and oral comprehensive examinations and a defense of dissertation are required. A qualifying examination will be required for students who are admitted without a master’s degree and may be required for students whose prior degrees are outside of the proposed Ph.D. field of study.

**Additional Matters Tabled**

1) **College of the Environment and Life Sciences**

   Department of Marine Affairs

   *The motion to table with recommendations to department that the number of credits required for all students be the same and the deduction from those follow university policies was approved with 1 nay.*

   **Consolidation of the Marine Affairs two Master’s degree programs**
   (see PDF file version of full proposal on the March proposal web file)

   The Department of Marine Affairs is submitting for your approval a change in our graduate program. This change is the result of an ongoing program review by the department. By a unanimous vote, the Department of Marine Affairs approved the attached proposed changes, which will consolidate our two existing Master degree programs into a single degree program.

   **Proposal:** MAF currently offers two Master degree programs, the Master of Arts degree in Marine Affairs (MAF MA) and the Master of Marine Affairs (MAF MMA). The current proposal calls for the consolidation of these degree programs into one program, a Master of Arts in Marine Affairs (MAA), and the establishment of two “tracks” within that program. One track represents the existing MAF MA program with the only change being the creation of a non-thesis option in that track. This track is designed for individuals who have recently been awarded a Bachelor’s degree. The second track incorporates the degree requirements of the current MAF MMA program and is specifically designed for individuals with prior relevant work experience or a more extensive educational background. To enter this track, a student must satisfy
one of the following conditions: possession of a graduate degree in a related area, possession of a Bachelor’s degree and five years of relevant professional experience, completion of one year at Roger Williams University Law School, or completion of the comprehensive examination in the Oceanography doctoral program. The two tracks share a common core curriculum and overall requirements, but do differ in the level of preparation and background of entering students, which in turn is reflected in the total number of credits required for each track.

Rationale: The Office of Higher Education has proposed consolidating degree programs. This proposal will consolidate degree programs that have the same core curriculum. The main difference between the two existing degrees is that MMA students have fewer course requirements because they are given course credit for prior relevant graduate work or if they have five years of work experience in a maritime area. To get a reduced credit load, a prospective student must have completed a graduate degree in a related field or have completed his or her comprehensive exam in the Oceanography doctoral program or his or her first year at Roger Williams Law School. MMA students take a total of 30 credits while MA students take 45 credits. The other difference is that MMA students take a comprehensive exam and complete a major paper while the MA students complete a thesis. This proposal, however, includes adding an option that allows MA students to 2 take the comprehensive exam and complete a major paper instead of completing a thesis. This change will bring our graduate degree into line with our peer programs around the country. The addition of the non-thesis option will also eliminate this difference between the MMA and MA, leaving the course credit given for other relevant graduate work or work experience as the only difference between the two programs. Because the prior graduate work or work experience are proper substitutes for the additional coursework, there is no reason to distinguish between the degrees and, therefore, awarding a single degree with alternative tracks makes sense. Having two separate degrees is unnecessary and unnecessarily confusing for prospective students. Moreover, a single degree would be easier and more efficient to administer at the departmental, college and university levels.

Implementation: Students currently enrolled in the existing programs and those entering in fall 2010 will be given the option of completing the current programs or transferring to the proposed MAF MA program. No additional resources are required for implementation of the proposed changes and there should be no impact on the library.

2009-2010 catalog
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 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.

Master of Marine Affairs (M.M.A.)
Admission requirements: (1) Individuals with a prior graduate degree or five years of equivalent experience in marine areas, or (2) law students in good standing who have completed one year of full-time study at Roger Williams University School of Law, or (3) students who have successfully completed the comprehensive examinations in the oceanography doctoral program may apply through the Graduate School. For international students, minimum paper TOEFL scores on the iBT as follows: Reading 20, Writing 22, Listening 17, and Speaking 17 (total of 213 CBT or 550 PBT). GREs are not required for admission to this program.

Program requirements: nonthesis program; EEC 514; MAF 577, 589, 651, 511 or appropriate oceanography substitute; plus 15 elective credits for a total of 30 credits; written comprehensive examination. Roger Williams School of Law students may transfer in up to six credits from that curriculum to meet the requirements of the M.M.A. degree. Students in the oceanography doctoral program may count up to six credits of courses taken for that degree toward the M.M.A. degree.

Language proposed for the 2010-2011 catalog
MARINE AFFAIRS
MA, PhD
401.874.2596
Faculty: (no change from current catalog p 149)
Specializations (No change from current catalog p 149)

Master of Arts (MA)
Admissions requirements: Applicants with a recent Bachelor’s degree are to provide GRE scores, transcripts, two or more letters of recommendation, and a personal statement. To earn the MA degree they are to complete a total of 45 credits of academic work. Applicants who have met any of the following conditions: holding a Master’s degree in a related field, having a Bachelor’s degree and five years of relevant professional experience, having successfully completed one year at Roger Williams University Law School, or having completed the comprehensive examination in the oceanography doctoral program may apply to the MA program by providing transcripts, two or more letters of recommendation, and a personal statement. Such students will be required to complete a total of 30 credits of academic work. 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).

Program requirements: All students complete the following courses: MAF 511 Ocean Uses and Marine Science (or appropriate oceanography substitute) MAF 577 International Ocean Law MAF 651 Marine Affairs Seminar EEC 514 Economics of Marine Resources (or appropriate economics substitute) In addition students requiring 45 credits for graduation complete MAF 482 Quantitative Methods and MAF 502 Research Methods, a thesis or
major paper, and additional courses that qualify for graduate credit including a minimum of four MAF classes. Students requiring 45 credits who elect to do a major paper (MAF 589) will also complete the written comprehensive exam. In addition, students requiring 30 credits for graduation complete a major paper, five additional Marine Affairs courses that qualify for graduate credit, and a written comprehensive exam. Roger Williams School of Law students may transfer up to six credits from that curriculum to meet the requirements of this degree. Students in the GSO oceanography doctoral program may count up to six credits of courses taken for that degree toward the Marine Affairs degree. **Doctor of Philosophy** (as per current catalog p 149-150)

2) **College of Engineering**

Various Departments

*The motion to table this item was approved with 1 abstention*

**A Proposal for a Common Ph.D. in Engineering**

**A. GENERAL INFORMATION**

1. **Name of institution**
   University of Rhode Island

2. **Name of administrative unit**
   • College of Engineering  
   o Department of Ocean Engineering (OCE)  
   o Department of Civil and Environmental Engineering (CVE)  
   o Department of Chemical Engineering (CHE)

3. **Title of proposed organizational unit**
   The organizational unit title is not being changed. A change from the existing College of Engineering Ph.D. degree titles to a common Ph.D. degree title is proposed as follows:

   • Existing  
   o Doctor of Philosophy in Ocean Engineering  
   o Doctor of Philosophy in Civil and Environmental Engineering  
   o Doctor of Philosophy in Chemical Engineering  
   • Proposed  
   o Doctor of Philosophy in Engineering with Concentration in(program, subplan, etc.)

4. **Intended date of change**
   Initiation date: Fall 2009

5. **Intended location of organizational unit**
   • College of Engineering  
   o CVE - Bliss Hall
6. Description of institutional review and approval process
Departments
College
CAC/Graduate Council
Faculty Senate
President of the University

Approval Date
April 2, 2009 *Signature attached*
April 7, 2009 *Signature attached*

7. Summary description of the proposed organizational change
This document proposes a name change for the Ph.D. degrees in three departments in the College of Engineering to a common "Doctor of Philosophy in Engineering" degree as indicated in Item 3 above and described in Item B1 below.

8. Signature of the President

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Robert L. Carothers

9. Statement either that no new or additional resources are required or that compensatory reduction or reallocation of resources will take place if needed.
No new or additional resources will be required.

10. Person to contact during the review
Raymond M. Wright
Interim Dean
874-2186
wright@egr.uri.edu

11. Signed agreements for any cooperative arrangements made with other institutions/agencies or private companies in support of the program.
N/A

B. RATIONALE: There should be a demonstrable purpose and documented need for the proposed organizational change.

1. Explain why the organizational change is being proposed.
The faculty of the Departments of Civil and Environmental Engineering (CVE), Ocean Engineering (OCE), and Chemical Engineering (CHE) enthusiastically support the formation of a common Ph.D. in Engineering, with a degree title of "Doctor of Philosophy in Engineering". The consolidation of
the three Ph.D. programs in CVE, OCE, and CHE will build on the existing synergies between the three departments in both curricula and research, forming a strong basis to enhance our Doctoral program. The primary objectives of the common Ph.D. in Engineering are: a) to create interdisciplinary learning and discovery across different engineering disciplines, and b) to sustain vibrant research programs in high visibility, cutting edge research areas of national and international significance such as alternative energy, environmental water quality, advanced engineering materials, transportation, and mitigation of natural and man-made hazards. The common Ph.D. in Engineering was unanimously approved by the College of Engineering faculty during the April 7, 2009 faculty meeting.

This new common Ph.D. in Engineering will also serve as an umbrella for other existing programs within the College and also for future programs in new emerging research focus areas that cross traditional departmental boundaries, and even College boundaries. This new initiative provides the College of Engineering with an excellent opportunity to strengthen and expand graduate education and research within the College, something we are clearly very enthused about.

In addition, the new common Ph.D. in Engineering will provide the infrastructure for attracting new and broader extramural funding from large interdisciplinary programs such as those available through the National Science Foundation (IGERT - Integrative Graduate Education and Research Traineeship), the Department of Homeland Security (DHS) (Center of Excellence in Explosives Mitigation, Characterization and Detection which currently is in place at URI), Department of Defense (DOD), and other similar sources that sponsor graduate level research.

The existing Ph.D. programs from the three departments (CVE, OCE and CHE) when viewed together, combine for a total of 23 Doctoral candidates that are currently enrolled. This critical mass will be able to meet the graduation targets of the Office of Higher Education under the common Ph.D. in Engineering we are seeking. We anticipate having 10 to 13 new students enrolled in the common Ph.D. in Engineering, with 2 or 3 entering the CVE track, 4 or 5 in the OCE track, and 4 or 5 in the CHE track for the Fall 2009 semester. Additionally, we expect this trend to continue as interdisciplinary collaborative research activities continue to develop and expand in the College.

Synergies of the New Common Ph.D. in Engineering

The common Ph.D. in Engineering will build upon existing synergies between the three departments (CVE, OCE, CHE). The goal is to improve both the efficiency and quality of the curricula and sponsored research activities. Degree candidates in the common Ph.D. in Engineering will be encouraged to take more interdisciplinary courses as we convert courses with broad appeal from the individual department course listings (OCE, CVE, CHE) to common College of Engineering level course listings (EGR). Courses that have already been identified as potential candidates for new EGR status are listed below. In
several cases, these courses already exist as cross-listed courses between two departments, which highlights their interdisciplinary nature. In addition, other courses are being considered for the future.

- Introduction to Data Collection Systems (OCE 560)
- Advanced Corrosion (CBE/OCE 534)
- Advanced Materials Engineering (CBE/OCE 537)
- Process Engineering for Pollution Prevention (CRE 576)
- Numerical Methods (CVE 596)
- Finite Element Analysis (CVE 551)
- Seabed Geotechnics (OCE/CVE 582)
- Advanced Foundation Engineering (CVE/OCE 583)
- Experimental Geomechanics (CVE/OCE 581)
- Ceramic Engineering (CRE 532)
- Bionanotechnology (CBE 550)

The common Ph.D. in Engineering will provide synergy in focus areas of research across the three departments, the College, and other URI Colleges. These focus areas include alternate energy, environmental water quality, hazard mitigation, and transportation materials. There is already considerable expertise in these areas that cuts across individual departments and Colleges. The common Ph.D. in Engineering will facilitate coordinated efforts to expand extramural funding in these and other high visibility, cutting edge research areas of national and international significance.

C. INSTITUTIONAL ROLE: The organizational change should be clearly related to the published role and mission of the institution and be compatible with the organizational structure of the institution

1. Explain how the organizational change is consistent with published role and mission of institution and how it is related to institutional planning.

The common PhD in Engineering is consistent with the role and mission of the institution. In the recent vision statement of the University a prominent distinctive strength identified is engineering and the physical sciences. There is a strong desire at the institution to combine programs and faculty to increase the program's strength of and also to provide greater opportunities for degree candidates at the Doctoral level. The approach proposed herein will accomplish this.

D. INTERINSTITUTIONAL CONSIDERATIONS: The organizational change should be consistent with all policies of the Board of Governors pertaining to the coordination and collaboration between public institutions of higher education.

1. Estimate the projected impact of the organizational change on the other public higher education institutions in Rhode Island (e.g., loss of students or revenues), provide a specific rationale of the assumptions make in the projections, and indicate the manner in which the other public institutions were consulted in developing the projections.
There will be no specific impact on other institutions of higher education.

2. Describe any cooperative arrangements with other institutions relative to the organizational unit. (Signed copies of any agreements pertaining to the use of faculty, library, equipment, and facilities should be attached.) There are no cooperative arrangements with other institutions.

E. EVALUATION: Criteria which can be used in the future to evaluate the success of the organizational change should be proposed.

1. Describe the process and the criteria by which the organizational change will be monitored and periodically evaluated.

The Doctor of Philosophy in Engineering degree will be reviewed by the College of Engineering, the Department of Civil and Environmental Engineering (CVE), Ocean Engineering (OCE), and Chemical Engineering (CHE) and the BGHE on a regular basis. Evaluation criteria include but are not limited to:

a) Student enrollment,
b) Students graduating from program,
c) Effectiveness in attracting sponsored research,
d) Increased synergies between College of Engineering programs,
e) Increased synergies between the College of Engineering and other URI Colleges, and
f) Other assessment/evaluation metrics that are needed as the program develops and prospers.

VI. New Business

A. Due to time restraints the review of policy of deleting graduate courses not offered for the two years and not scheduled for a third year was tabled until the next meeting.

VII. Old Business

VIII. The meeting adjourned at 4:30 p.m.