1993

Curricular Report No. 1992-93-7 from the Graduate Council to the Faculty Senate

University of Rhode Island Faculty Senate

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UNIVERSITY OF RHODE ISLAND
Kingston, Rhode Island
FACULTY SENATE
BILL

Adopted by the Faculty Senate

TO: President Robert L. Carothers

FROM: Chairperson of the Faculty Senate

1. The attached BILL, titled Curricular Report No. 1992-93-7 from
   the Graduate Council to the Faculty Senate
   is forwarded for your consideration.

2. The original and two copies for your use are included.

3. This BILL was adopted by vote of the Faculty Senate on ____________.

4. After considering this bill, will you please indicate your approval
   or disapproval. Return the original or forward it to the Board of
   Governors, completing the appropriate endorsement below.

5. In accordance with Section 10, paragraph 4 of the Senate’s By-Laws,
   this bill will become effective ______ May 13, 1993 ______, three weeks after Senate approval, unless: (1) specific dates for
   implementation are written into the bill; (2) you return it disapproved;
   (3) you forward it to the Board of Governors for their approval; or (4)
   the University Faculty petitions for a referendum. If the bill is
   forwarded to the Board of Governors, it will not become effective until
   approved by the Board.

   April 23, 1993
   Leonard M. Kahn
   Chairperson of the Faculty Senate

ENDORSEMENT

TO: Chairperson of the Faculty Senate

FROM: President of the University

   Returned.
   a. Approved
   b. Approved subject to final approval by Board of Governors
   c. Disapproved

   4/30/93
   President

Form revised 9/91
At its Meeting No. 304 held on April 2, 1993, the Graduate Council considered and approved the following curricular matters which are now submitted to the Faculty Senate for confirmation as indicated.

I. Matters Requiring Confirmation by the Faculty Senate.
   A. College of Engineering
      1. Department of Ocean Engineering
         a. Deletions
            OCE 512: Hydrodynamics of Floating and Submerged Bodies I
            OCE 513: Hydrodynamics of Floating and Submerged Bodies II
            OCE 523: Coastal Structures
            OCE 566: Ocean Laboratory II
            OCE 625: Advanced Marine Structures
            OCE 626: Marine Structural Design
         b. Add (New)
            OCE 514 Engineering Wave Mechanics and Nearshore Processes I,3
            OCE 611 Coastal & Estuarine Environmental Modeling I,3
            Numerical modeling techniques to solve problems in coastal and estuarine circulation and pollutant transport. Application of models to predict tidal, wind and density-forced circulation, constituent and sediment transport, oil and chemical spill transport. (Lec 3) Pre: OCE 510 or permission of instructor. Spaulding
            OCE 614 Coastal Modeling II,3
            Mild slope equation. Parabolic wave equation. Harbor oscillations and wave field modeling (refraction--diffraction). Nearshore hydrodynamics models. Fully nonlinear wave model (Boundary Elements) and applications. (Lec 3) Pre: OCE 514. Grilli
            OCE 623 Random Waves and Vibrations II,3
            Random ocean waves; random wave kinematics and forces; wave kinematics near ocean surface; linear and second-order random wave theories; wave simulations; linear random vibration; nonlinear stochastic dynamic analysis. (Lec 3) Pre: OCE 522. Hu
OCE(ELE) 677 Statistical Sonar Signal Processing I or II, 3
Basic results in probability and statistics, signal processing, and underwater acoustics are applied to the design of detection, estimation and tracking in active sonar, passive sonar and underwater acoustic communication. (Lec 3) Pre: MTH 451 or ELE 509, ELE 506, and ELE/OCE 571, or equivalents, ELE 510 is useful and closely related, but not required. Stephanishen/Tufts

c. Changes

OCE 566: Ocean Laboratory II - number and description to:
OCE 666(566) Ocean Laboratory II I, 3
Advanced design/laboratory course in ocean mapping and instrumentation. Students work as a team designing and deploying ocean instrumentation including sonars, navigation systems, vessels, buoys, underwater sensors and locations of opportunity. (Lab 6-8) Pre: OCE 565 or permission of instructor. Tyce

OCE 510: Engineering Ocean Mechanics - description to:
OCE 510 Engineering Ocean Mechanics II, 3
Fundamental equations of estuarine and coastal hydrodynamics. Scaling of governing equations. Long period waves including seiches, tides, storm surges, and tsunamis. Wind and estuarine induced circulation. Pollutant and sediment transport. (Lec 3) Pre: MCE 354 or equivalent. Spaulding

OCE 522: Dynamics of Waves and Structures - description/pre to:
OCE 522 Dynamics of Waves and Structures I, 3
Deterministic analysis for SDOF structures; MDOF dynamic analysis; distributed-parameter systems; linear and second-order Stokes wave theories; wave forces on cylinders; chaotic vibration of marine structures. (Lec 3) Pre: MCE 464 or permission of instructor. Hu

OCE(ELE) 571: Underwater Acoustics I - description to:
OCE(ELE) 571 Underwater Acoustics I I, 3
Introduction to sound generation, transmission, and reception including: vibration of mechanical systems, acoustic waves in fluids, acoustic transducers and arrays, acoustic propagation in the ocean, and sonar systems. (Lec 3) Stephanishen

OCE 672: Underwater Acoustics II- description/pre to:
OCE (ELE) 672 Underwater Acoustics II II, 3
Sound transmission in ocean, transducers, active signal design for range and Doppler resolution, ambient and platform noise, classical and wavevector-frequency methods of beamforming, adaptive beamforming, characteristics of targets, and active/passive systems. (Lec 3) Pre: OCE 571. Stephanishen

d. Changes in Admission and Program Requirements for the Ph.D. in Ocean Engineering to read:

Admission requirements: M.S. degree in engineering or equivalent; exceptional students with a Bachelor of Science will also be considered. All students will be required to complete the OE and OCG core courses for the MS degree in Ocean Engineering if equivalent courses are not included in their Master’s degree.

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Program requirements: Ph.D. qualifying examination, dissertation, one advanced applied mathematics course, one graduate-level course in another department, one additional oceanography and two additional ocean engineering courses. Students entering with a Master’s degree will be required to complete a minimum of 30 credits of course work which includes the above noted courses. Students entering with a Bachelor’s degree will be required to complete at least 60 credits which also includes the courses required for the Master of Science in OE.

2. Department of Civil Engineering
   a. Changes in Admission and Program Requirements for the M.S. in Civil Engineering to read:

Admission requirements: bachelor’s degree in civil or environmental engineering. Candidates in other engineering fields or in mathematics, biology, chemistry or physics may be accepted with the possibility of additional undergraduate prerequisite courses being required.

Program requirements: thesis or nonthesis option. Thirty credits plus CVE 601, 602 except for part time students. Nonthesis option requires comprehensive report and comprehensive examination.

3. Department of Electrical Engineering
   a. Changes in Admission and Program Requirements for the Ph.D. in Electrical Engineering to read:

Admission requirements: GRE and M.S. degree in electrical or computer engineering, engineering science, physics, mathematics, or computer science; exceptional students with a Bachelor of Science degree will be considered.

Program requirements: Qualifying examination may be waived for students with a Master’s degree. A minimum of 72 credits beyond the B.S. degree, 18-24 of which are dissertation credits (a Master’s degree may count for up to 30 credits). A comprehensive examination taken after all formal course work is completed. Attendance at the departmental seminar (ELE 601, 602) is required of all students in graduate residence. Dissertation research makes use of major modern laboratories in the listed areas of specialization.

4. Department of Mechanical Engineering and Applied Mechanics
   a. Changes in Admission and Program Requirements for the Ph.D. in Mechanical Engr. & Applied Mechanics to read:

Admission requirements: GRE (required of foreign applicants only); masters degree. Exceptional students with a Bachelor’s degree and superior Master’s candidates who have passed the Ph.D. qualifying examination also will be considered.
Program requirements: Ph.D. qualifying examination (students admitted with only a Bachelor’s degree are required to take this exam after one year of full time study). Completion of a minimum of 24 credits of course work beyond the masters degree, exclusive of seminar (48 credits of course work after bachelor’s degree); MCE 501, 502 graduate seminar required of all on-campus students. Comprehensive examination and dissertation.

B. Graduate School of Oceanography
1. Change

OCG 625: Organic Geochemistry - title changed to:
OCG 625: Organic Geochemistry of Sediments

C. College of Arts and Sciences
1. Department of Microbiology
   a. Change in program requirements for the M.S. in Clinical Laboratory Science:

Delete ASP 534: Virology from the clinical chemistry track. Change "...and at least one from a technical area other than the declared area," to "a course from a technical area other than the declared area is recommended."

2. Department of Physics
   a. Change in M.S. program requirements to:

Program requirements: PHY 510, 520, 525, 530, 560, 570, and 580 are required of all students. For both the thesis and nonthesis options, the student shall complete 30 credits, of which no more than six may be below the 500 level. For the nonthesis option, at least one course shall require a substantial paper involving significant independent study and the student shall pass a final written and oral examination.

b. Change in Ph.D. program requirements:
Add PHY 660: Nuclear and Particle Physics as a required course.

c. Change in prerequisites for PHY 580 and 570 to:

PHY 580: Condensed Matter Physics I
Pre: PHY 530 or permission of chairperson

PHY 670: Quantum Mechanics II
Pre: PHY 570 or permission of chairperson

D. College of Human Science and Services
1. Department of Education
   a. Add (New)

EDC 593 Teaching Social Studies in the Secondary School I,II,SS,3 Research and examination of the structure, functions and problems of teaching the social studies in the secondary school. Emphasis on researching current social problems as they relate to their historical antecedents. (Lec 3) Pre: Certified teacher or permission of instructor. MacMillan
2. Department of Human Science and Services
   a. Add (New)

HSS 590 Seminar in Human Science
Investigation of human science as lived experience, reflective inquiry, and reflective practice. Development and presentation of individual projects embodying these characteristics of human science. (Lec 3) Willis

3. Department of Physical Therapy
   a. Change in admission requirements for the M.S. degree in Physical Therapy:

12 credits of biological sciences including a minimum of 6 credits of human anatomy and human physiology.

b. Change in prerequisites for the following:

PHT 552: Functional Rehabilitation & Advanced Therapeutic Exercise to
   -Pre: 550 or permission of instructor

PHT 575: Physical Therapy Internship I to -Pre: Permission of instructor

PHT 585: Physical Therapy Internship II to -Pre: Permission of instructor

PHT 595: Physical Therapy Internship III to -Pre: Permission of instructor

E. College of Resource Development
   l. Department of Fisheries, Animal and Veterinary Science
   a. Change in name of graduate program

From: Fisheries, Aquaculture, and Pathology
To: Fisheries, Animal and Veterinary Science

b. Deletion

Eliminate M.S. specializations in Animal Virology and Aquatic Pathology

c. Add at the M.S. level:

Two tracks: Animal Science and Animal Health and Disease within the Animal and Veterinary Science specialization.

Three tracks: Fisheries, Aquaculture and Aquatic Pathology within the Fisheries and Aquaculture specialization

d. Revisions/establishment of program requirements for the revised specializations and tracks as follows (new write-up for the Bulletin of the University of Rhode Island Graduate School):
Master of Science
Specializations

Animal and Veterinary Science:
Animal Science track--regional, national and global problems are studied in the areas of animal behavior, endocrinology, nutrition, physiology and reproductive biology. Both domestic livestock and laboratory animals are used in a research context.
Animal Health and Disease track--animal health problems of regional, national and global significance are studied. Characterization of bacterial and viral diseases as well as the study of stress and the development of pathologic conditions are considered.

Fisheries and Aquaculture:
Aquaculture track--aquaculture of salmonids and shellfish; genetics, nutrition and physiology of fishes.
Fisheries track--fisheries science and technology.
Aquatic Pathology track--pathology of aquatic animals; effects of environmental pollution on aquatic organisms.

Admission Requirements: GRE and an undergraduate major in the biological sciences with a concentration in animal science, fisheries technology, marine biology, microbiology, preveterinary medicine or zoology or post graduate professional degrees (MD, DVM, VMD); one year of organic chemistry and physics. Courses in statistics, histology and physiology are strongly recommended.

Program Requirements:

Animal and Veterinary Science
Animal Science track--thesis and 24 credits of course work to include two semesters of graduate seminar, ASP 501 and/or 502, ASP 532; AVS 412, 472. Thesis topic and additional course work will be selected by the student in consultation with, and approval of, the major professor.
Animal Health and Disease track--thesis and 24 credits of course work to include two semesters of graduate seminar, ASP 501 and/or 502, ASP 401, 532, 534. Thesis topic and additional course work will be selected by the student in consultation with, and approval of, the major professor.

Fisheries and Aquaculture
Fisheries track--thesis and 24 credits of course work to include two semesters of graduate seminar, ASP 501 and/or 502; two courses in statistics (at least 1 at the 500 level); FST 415, 421. A total of 14 credits of ASP or FST course work must be included in the program of study. Thesis topic and additional course work will be selected by the student in consultation with, and approval of, the major professor.
Aquaculture track--thesis and 24 credits of course work to include two semesters of graduate seminar, ASP 501 and/or 502, ASP 400, 483, 486, 581; BCP 581, EST 409. Thesis topic and additional course work will be selected by the student in consultation with, and approval of, the major professor.
Aquatic Pathology track--thesis and 24 credits of course work to include two semesters of graduate seminar, ASP 501 and/or 502, ASP 400, 486, 534, 536, 555, 556. Thesis topic and additional course work will be selected by the student in consultation with, and approval of, the major professor.

Doctor of Philosophy
(Biological Sciences)
Specializations
Animal virology: characterization of avian and marine viral infections; recovery of viruses from estuaries, streams and ponds.
Aquatic pathology: pathology of aquatic animals; effects of environmental pollution on marine organisms.

Admission Requirements: same as Master’s degree, Ph.D. qualifying exam.

Program Requirements:
Animal virology--enrollment in two semesters of graduate seminar, ASP 534, 536, 538, BCP 581, 582; MIC 432, 533, 552, 641. Suggested courses include BCP 622, 624. Dissertation topic and additional course work will be selected by the student in consultation with and approval of the major professor.

Aquatic pathology--enrollment in two semesters of graduate seminar, ASP 400, 401, 486, 534, 536, 555, 556; BCP 581, 582; EST 532. Suggested courses include ASP 538, 584, 586; BCP 622, 624; MIC 533. Dissertation topic and additional course work will be selected by the student in consultation with and approval of the major professor.

2. Department of Resource Economics
   a. Change in Nonthesis option M.S. degree program requirements
Delete REN 591; Add in its place, REN 598