To: Members of the 2023-2024 Graduate Council

From: Angela Slitt, Chair
Brenton Deboef, Dean
Colleen Mouw, Associate Dean

Date: March 4, 2024

RE: Agenda for Meeting Number 561 of the Graduate Council to be held on Monday, March 4, 2024 at 2:00 p.m. via Zoom

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I. Call to order

II. Approval of Minutes - Meeting No. 560, February 12, 2024

III. Announcements

A. Graduate Faculty Summit Recap *(Mouw)*
B. Housing Update *(Mouw)*
C. Professional Development *(Mitnick)*
D. Graduate Admission *(Kulesh)*
E. Recent appointments to the Graduate Faculty *(Mouw)*
Benjavan Upatising, Outside Scholar, COB
Yuehwern Yih, Outside Scholar, COB
Amanda S. Gallinat, Outside Scholar, CELS
Karla Pozo Gallardo, Outside Scholar, COE
Joshua Fishlock, Adjunct, CAS

IV. Graduate Curriculum (Kuali Agenda) *(Mouw)*

COURSE CHANGES

COLLEGE OF ARTS AND SCIENCES

TABLED MUS 445 | Vocal Pedagogy
(2 crs.) In-depth study of how singing tone is produced, accompanied by practical applications in supervised studio teaching experiences. Additional topics to include voice issues in the 21st century singing community. (Lec. 2) Pre: MUS 173, 235, 442 and concurrent enrollment in MUS 410 and permission of instructor. Not for graduate credit.

COLLEGE OF ENGINEERING

CHE 474 | Space Nuclear Propulsion and Power **Allowing graduate credit**
(3 crs.) Cross-listed as (CHE), MCE, NUE 474. Design and analysis of nuclear propulsion systems for space and terrestrial nuclear engines and power reactors for Moon and Mars missions. (Lec. 3) Pre: MTH 244 or permission of instructor

MCE 474 | Space Nuclear Propulsion and Power **Allowing graduate credit**
(3 crs.) Cross-listed as (CHE), MCE, NUE 474. Design and analysis of nuclear propulsion systems for space and terrestrial nuclear engines and power reactors for Moon and Mars missions. (Lec. 3) Pre: MTH 244 or permission of instructor.

NUE 474 | Space Nuclear Propulsion and Power **Allowing graduate credit, Cross-listed**
(3 crs.) Cross-listed as (CHE), MCE, NUE 474. Design and analysis of nuclear propulsion systems for space and terrestrial nuclear engines and power reactors for Moon and Mars missions. (Lec. 3) Pre: MTH 244 or permission of instructor.

COLLEGE OF ENVIRONMENTAL & LIFE SCIENCES

EEC 522 | Computer Intensive Methods In Applied Economics **Change in description, title, credits**
(4 crs.) Use of selected software packages to analyze topics and numerical problems in applied economics, including Stata/R, spreadsheets, and Matlab, based on statistical methods such as causal inference, big data and machine learning techniques. (Lec. 4/Online) Pre: Graduate standing or by permission of instructor.

COLLEGE OF HEALTH SCIENCES

PSY 496 | Research Experience in Psychology **Change in description, prerequisite**
(3 crs.) Students gain research.experience either by assisting a graduate student or faculty member on an ongoing research project, or by conducting a supervised individual project. Required for BS Psychology majors. (Independent Study) Pre: Permission of instructor. May be repeated once.

NEW COURSES

COLLEGE OF ARTS AND SCIENCES

TABLED APG 420 | Decolonial Ecologies
(3 crs.) Examines Afro-descendant and Indigenous lives, cultural ecology, local ecological knowledge, environmental justice, and initiatives and organizing efforts to resist on-going threats to coastal livelihoods throughout the Americas. (Seminar) Pre: Sophomore standing and APG 200 or APG 203; or permission of instructor

PSC 491 | Principles of Public Management and Public Policy
(4 crs.) How do we organize and develop public policy to collectively pursue societal goals? This course will introduce students to this longstanding question and to the debates relating to public management and policymaking processes. (Lec. 3, Online) Pre: PSC 210, 211, or 310. (D1)

COLLEGE OF ENGINEERING

ELE 575 | Brain Signal Processing and Applications
(3 crs.) This course presents novel interfaces between brain and computer devices, and covers different components of a BCI system including signal acquisition, signal preprocessing, feature extraction, and feature translation. (Accelerated Online Program) Pre: Graduate standing; permission of instructor. Familiarity with topics in digital signal processing and random process is highly recommended.

NUE 511 | Nuclear Reactor Analysis
(3 crs.) Atomic and subatomic particles, atom density, binding energy, radioactive decay, neutron flux, cross-sections, fission/fusion processes, reactor kinetics and control, neutron life cycle, criticality, neutron diffusion, reactivity feedback, and reactor designs. (Online) Pre: MTH 244 or MTH 362, or by permission of instructor

NUE 512 | Nuclear Design and Safety Analysis
(3 crs.) Design and analysis of nuclear power systems, including PWR, BWR, SMR, MSR, VHTR, microreactors, Gen IV, naval reactors, and fusion power. Safety analysis of nuclear systems. (Online) Pre: MCE 341 or CHE 314, or by permission of instructor.

NUE 513 | Nuclear Fuel Cycle and Performance
(3 crs.) Nuclear fuel life cycle, including mining, nuclear materials production, enrichment, nuclear fuels, burnup, and storage of spent nuclear fuel. Advanced reactor designs, nuclear fuels, and advances in the nuclear fuel cycle. (Online) Pre: MCE 341 or CHE 314, or by permission of instructor.

NUE 516 | Nuclear Radiation Damage in Materials
(3 crs.) Microstructure fundamentals, material defects, diffusion, nuclear fission, neutron interactions, radiation damage effects, swelling, creep, mechanical property variations, cladding and control rods, numerical simulation of atomic displacement cascades. (Online) Pre: MTH 244 or 362 and CHE 314 or MCE 341; or by permission of instructor.

COLLEGE OF ENVIRONMENTAL & LIFE SCIENCES

CMB 537 | Principles of Molecular Biology
(3 crs.) The purpose of the course is to understand basic methods used to study DNA and proteins as it pertains to experimental approaches used in the laboratory. (Lec. 3) Pre: By permission of instructor.

COLLEGE OF HEALTH SCIENCE

PSY 412 | Health Promotion
(3 crs.) This course examines theory and methods to facilitate individual and group behavior change to promote health, reduce risks of premature disease and mortality, and manage chronic illness. The course emphasizes values and research evidence, contexts, and cultures as they relate to efforts to promote health. (Lec. 3) Pre: PSY 113

V. Graduate New Program & Tracks (Kuali Agenda) *(Mouw)*

PROGRAMS CHANGES

COLLEGE OF EDUCATION

Special Education - MA **Change in credits, description, course requirements**

The following educator certification would allow candidates to either be certified in elementary and middle level special education certification OR secondary and middle level special education certification. Rationale: The 2020 Rhode Island teacher certification regulations changed, in which special education certification is a stand-alone certification. This means that an educator can obtain middle level special education certification as an add-on without having a general education middle level certification (which prior to 2020 was the regulation). Due to this issue, there is currently only 1 teacher preparation program who has been approved to train middle level special education in the state of Rhode Island. Middle level special education is a shortage area. This proposal would prepare all special education candidates to be automatically certified in middle level special education.

NEW PROGRAMS

COLLEGE OF ARTS AND SCIENCES

Applied Science Communication - MA

The Applied Science Communication Graduate Degree is a unique interdisciplinary program that allows students to apply learning from two graduate certificates and receive training in inclusive science communication practices. Students will learn how to analyze real-world cases using relevant academic theory and how science and the media influence public attitudes, values, and behaviors. Upon completing all the course and portfolio requirements, students will have developed expertise in communicating scientific, environmental, and/or health information effectively with diverse audiences. To receive the MA degree, students must create a portfolio of their work from two certificates, which will be reviewed by a committee of faculty from the two certificate programs.

UX/UI Design - MA

The Master in User Experience/User Interface (UX/UI) Design is designed to prepare students for meaningful careers in the burgeoning fields of UX/UI. This online accelerated curriculum delves into both UX and UI, offering a holistic perspective. The program emphasizes ethical, collaborative design practices to solve real-world problems, focusing on inclusive design, design justice, sustainability, and designing for the social good.

COLLEGE OF EDUCATION

Special Education ABM

The Special Education ABM Program is designed for students to earn both a bachelor's degree and an MA in Education (with a Specialization in Elementary & Middle Special Education OR Secondary & Middle Special Education) in just five years. Starting the senior year, students in this program will begin taking courses for their master's degree in special education.

COLLEGE OF ENGINEERING

Future Autonomous Systems Graduate Certificate

The next generation of autonomous systems will need to safely an effectively perform complex tasks in unknown conditions while protecting critical systems and sensitive information. This program will guide students through state-of-the-art solutions for autonomy, estimation, and cyber-security to develop highly sought-after skills in sensor fusion, robotics, automation, and information technologies.

Nuclear Engineering - Graduate Certificate

This graduate certificate program in Nuclear Engineering equips students with skills to design and evaluate systems that control and manipulate nuclear energy, including power plant design, reactor control, and safety systems. The program covers engineering problems related to fission and fusion processes, radiation, human and environmental factors, construction, and operational considerations. Course examples include Nuclear Reactor Engineering, Nuclear Fuels, Nuclear Propulsion, Nuclear Radiation and Shielding, and Nuclear Instrumentation and Measurement.

Wearable & Neuro-Technologies Graduate Certificate

The next generation of wearable and neurotechnologies will need to safely and effectively perform complex tasks in unknown conditions while protecting critical systems and sensitive information. This program will guide students through state-of-the-art solutions for wearable and neurotechnologies to develop highly sought-after skills in signal processing, robotics, biomedical instrumentations, and wearable internet-of-thing (IoT).

GRADUATE SCHOOL OF OCEANOGRAPHY

Ocean Policy & Science Graduate Certificate

This certificate is aimed at enhancing careers in ocean-related businesses (Blue Economy) as well as governmental and non-governmental organizations. Asynchronous online, seven-week modules. Requirements: 12 credits, OCG 5xx The Phenomenal Ocean, MAF 5XX Introduction to Ocean Governance, OCG 6xx Understanding Ocean and Climate Models and OCG 601 Ocean Resilience. Accepted as one of the required certificates in the online MPA program.

VI. New Business

A. Graduate Student Academic Appeals Board Nominations (Coyle)
B. Revisions to Graduate Manual, Section 3.23 - Admissions requirements for professional programs (Mouw)
C. Role of the Program Director (Mouw)
D. Leave of absence and withdrawal signatures (Mouw)

VII. Adjournment