

**THE UNIVERSITY OF WISCONSIN-MILWAUKEE**  
**College of Engineering and Applied Science**

**FACULTY MEETING**

**Friday, October 1, 2021 10:30 A.M. Virtually by Microsoft Teams**

**MINUTES**

The meeting was called to order at 10:31 a.m. with Dean Brett Peters presiding.

**PRESENT:** Professors Amano, Armstrong, Avdeev, Boyland, Chang, Church, Cuzner, Dabagh, D'Souza, El-Hajjar, Graettinger, Hu, Jang, Law, Li, Ma, Mali, McRoy, Misra, Munson, Niu, Petering, Peters, Pillai, Premnath, Qin, Qu, Rammer, Reisel, Rohatgi, Salowitz, Seifoddini, Sung, Tabatabai, Titi, L. Wang, W. Wang, Y. Wang, Z. Yu, J. Zhao, T. Zhao

**EXCUSED:** Professor Venugopalan

**GUESTS:** X. Bao, W. Dussault, M. Grypp, J. Opitz, L. Zwiefelhofer,

***I. DEAN UPDATE***

Extended congratulations to Anoop Dhingra, Qian Liao, and Habib Tabatabai on their promotions to full professor. Four faculty were congratulated on their successful post-tenure reviews.

All undergraduate programs under review last year received/renewed their ABET accreditation.

The 2030+ initiatives were reviewed, as were the CEAS strategic goals as we work towards moving into a top 100 engineering college.

CEAS needs to respond to challenges in order to thrive moving forward, which includes deciding which key initiatives to focus on. There are serious financial challenges facing UWM and CEAS. CEAS had to reduce its spending by \$1.1M in FY22, and has been asked to plan for a \$0.53M reduction in FY23. Additionally, CEAS relies heavily on the current budget adjustment process at UWM. State funding is not increasing significantly, the number of traditional students will be declining, more underprepared students are enrolling as freshmen, and we face competition from more institutions for students.

In light of these challenges, CEAS must find ways to increase revenue and rethink our approaches to how we function. We have made strides in this direction by reducing requirements in some of our undergraduate programs to 120 credits (with more free credits available). We are developing a pre-engineering program in cooperation with CGS. We are looking at ways to better leverage our accelerated MS program to attract more top students. We are working to bring faculty teams together to pursue targeted research opportunities in addition to considering how we can support and bolster on-going activity. CEAS also is developing plans for hiring new faculty through reinvesting some salary savings from departures and through new revenue streams.

## **II. INTRODUCTIONS**

### **A. Faculty**

1. Xuefeng Bao, Visiting Assistant Professor, Biomedical Engineering

### **B. Staff**

2. Robert Packard, Academic Advisor, Graduate Programs
3. William Dussault, Faculty Associate, Electrical Engineering
4. Loran Zwiefelhofer, Research Support Manager

## **II. ANNOUNCEMENTS**

### **A. Jean Opitz – Development Update**

There is a new donor recognition wall for donors who have given a cumulative amount of \$10,000 or more. This wall is located outside the student services office on the third floor of EMS.

In FY21, CEAS raised \$1,067,072 in addition to \$2M from the Nadella Family Trust and corporate gifts. This is an increase of 47% over FY20. Additionally, the UWM gives to UWM campaign generated \$69,481 for CEAS. This is a 958% increase in dollars from FY20.

There is a new fundraising initiative, “New Frontiers in Research”, running from 2021-24. This has a goal of raising \$5M to support research activities. To date, \$360,000 has been raised. CEAS is offering naming opportunities for spaces on the 9<sup>th</sup> and 10<sup>th</sup> floor as well as for named faculty positions.

### **B. Michael Grypp – UWM Chief Information Security Officer**

On October 13, there will be changes to remote access to campus computers on the SW Quadrant. Incoming access not using a VPN will be blocked by default. If you believe that you are hosting services that should not require a VPN to access, you should e-mail [noc@uwm.edu](mailto:noc@uwm.edu) to start the process for requesting an exception.

### **C. Associate Dean Munson announced that the Graduate School will be hosting an open house on October 28 from 6-8 PM. Faculty interested in participating should let him know.**

### **D. Associate Dean Graettinger announced that Habib Rahman and Xiao Qin joined the CEAS Millionaires Club.**

## **IV. INFORMAL REPORTS – See Attachment 1**

***V. DETERMINATION OF THE PRESENCE OF A QUORUM FOR FACULTY MEETING***

As 41 voting faculty members were present, a quorum was present.

***VI. AUTOMATIC CONSENT BUSINESS***

- A. Minutes of the April 23, 2021 Meeting
- B. New Courses and Course Changes – See Attachment 2
- C. B.S. in Data Science Program Changes – See Attachment 3
- D. B.S. in Computer Science Program Changes – See Attachment 4

***VII. NEW BUSINESS*** – None

***VIII. GENERAL DISCUSSION*** – None

***IX. ADJOURNMENT***

Meeting Adjourned at 11:33 a.m.

John R. Reisel, Secretary  
CEAS Faculty

JRR  
Attachments

## INFORMAL REPORTS

Office of Student Services – Todd Johnson

CEAS is creating a Pre-Engineering program in partnership with the College of General Studies for new students starting in Fall 2022. The purpose of the program is to offer a pathway for a larger and more diverse study body consistent with the UWM 2030 Plan. The students will be admitted to the associate's degree level in CGS to start. CGS will offer courses on the main campus with instructors selected specifically for this program. The tuition will be roughly 50% of bachelor's level tuition. The program is designed to prepare pre-calculus students for the engineering curriculum. The emphasis will be on math preparation. The program will feature small class sizes, cohort scheduling, peer mentoring and supplemental instruction.

Career Services – Juli Pickering

The college will host two career fairs this fall for engineering and computer science students:

- Fall Virtual Industry Expo: Friday, October 1, 2021 from 11 am – 2 pm in Handshake
- Fall In-Person Industry Expo: Friday, October 8, 2021 from 10 am – 2 pm in the Union Ballroom.

To date, 119 employers will participate in the two events. Please encourage your classes to attend!

Curriculum Committee – Prof. Church

Meeting agendas and minutes from the CEAS Curriculum Committee are available online at <https://sites.uwm.edu/ceas-cc/>

Graduate Program Committee – Prof. Law

No Report

Academic Planning Committee – Prof. Petering

No Report

Faculty Senate – Prof. Reisel

In September, the Faculty Senate approved changes to the Academic Drop and Probation Policy and endorsed a statement on vaccines put forward by the University Committee. Additionally, a statement from the Senate on the impacts of the Title and Total Compensation project was passed.

NEW COURSES

COMPSCI 811      ADVANCED MACHINE LEARNING, 3 cr., G  
 Advanced topics and applications in machine learning, including deep learning, recurrent neural networks, EM algorithm and clustering, reinforcement learning, Markov models and MCMC, and variational inference. Jointly offered as ELECENG 811  
 Prereq: ELECENG 711 or (ELECENG 420 and COMPSCI 411) or instructor consent.

COURSE CHANGES(Additions made in **Green**. Deletions Indicated in **Red**)

CIV ENG 360      INTRODUCTION TO STRUCTURAL ANALYSIS, 3 cr., U  
 Elementary structural analysis techniques; beams, trusses, statically determinate frames, influence lines; analysis of indeterminate structures by superposition and computer analysis.  
 Prereq: **Civ Eng 203(P)** or Civ Eng 303(P); **ElecEng 234(C)**

CIV ENG 372      INTRODUCTION TO STRUCTURAL DESIGN, 4 cr. U  
 Intro to design of reinforced concrete, steel, and wood structures; material properties; codes; design for flexure, shear and axial loads; connections.  
 Prereq: jr st.; **Civ Eng 203(P)** or Civ Eng 303(P); **Math 233(C)**

CIV ENG 413      ENVIRONMENTAL ENGINEERING, 3 cr., U/G  
 Water pollution and control; hazardous substances and risk assessment; water and wastewater treatment systems; air-pollution and emission control; solid wastes; design of treatment facilities.  
 Prereq: jr st & admis to an Eng major or grad st. ~~st; MeehEng 320(P).~~

COMPSCI 732      TYPE SYSTEMS FOR PROGRAMMING LANGUAGES, 3 cr., G  
 Lambda calculus, simple types, record types, subtypes, polymorphic types, type reconstruction, universal types, bounded quantification, higher-order types.  
 Prereq: grad st; CompSci 431(P) ~~& 654(P).~~

**BACHELOR OF SCIENCE IN DATA SCIENCE PROGRAM CHANGES**

Proposed Change: Allow Math 211-212 as an alternative to Math 231-232-233.

Rationale:

Math 212 is a new course.

**Math 212:** Survey in Calculus and Analytic Geometry II, 4 cr, U.

Continuation of first semester survey of calculus with applications to business administration, economics, and non-physical sciences. Topics include integration, multivariable calculus, Taylor polynomials and applications.

Prereq: grade of C or better in one of the following: MATH 208(P), MATH 211(P), MATH 213(P), MATH 221(P), or MATH 231(P).

**BACHELOR OF SCIENCE IN COMPUTER SCIENCE PROGRAM CHANGES**

Proposed Change: Allow Math 211-212 as an applied Math Elective

Rationale:

Math 212 is a new course.

**Math 212:** Survey in Calculus and Analytic Geometry II, 4 cr, U.

Continuation of first semester survey of calculus with applications to business administration, economics, and non-physical sciences. Topics include integration, multivariable calculus, Taylor polynomials and applications.

Prereq: grade of C or better in one of the following: MATH 208(P), MATH 211(P), MATH 213(P), MATH 221(P), or MATH 231(P).