

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

FACULTY MEETING

Friday, February 1, 2019 10:30 a.m. EMS E180

MINUTES

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

PRESENT: Professors Armstrong, Boyland, Bravo, Campbell-Kyureghyan, Chang, Cuzner, Dumitrescu, El-Hajjar, Ghorbanpoor, Goyal, Hanson, Hu, Law, Li, Lopez, Ma, Misra, Munson, Niu, Nosonovsky, Pashaie, Patrick, Petering, Peters, Qin, Qu, M.Rahman, Ranji, Reisel, Renken, Rohatgi, Salowitz, Seifoddini, Stern, Sung, Suzuki, Titi, L.Wang, W.Wang, Y.Wang, Xu, D.Yu, J.Yu, Z.Yu, Zhang, J.Zhao, T.Zhao, Zheng

EXCUSED: Professors Amano, Avdeev, Otieno, Venugopalan

I. DEAN UPDATE – See Attachment 1

To help CEAS reach its goals of increasing research expenditures per faculty, initiatives such as the Research Stimulus program, providing matching funds for post-docs, and the doctoral fellowship program are being performed. In addition, Dean Peters believes the Associate Dean for Research hiring process is nearing completion, and expects an individual to begin in the position over the summer.

With respect to undergraduate education, CEAS needs to respond to market demands. There is an opportunity to re-envision the curriculum to modernize the content and to better meet the needs of students who enter CEAS with a wide range of backgrounds. CEAS also is exploring creating efficiencies in the structure and delivery of the programs. CEAS faculty should be thinking about what should be in the curriculum with the idea of developing an ideal program, and be concerned with how to implement the changes later.

II. INTRODUCTIONS

A. Visiting Faculty

1. Andrew Greene, Visiting Professor, Biomedical Engineering
2. Mahsa Dabaghmeshin, Visiting Assistant Professor, Biomedical Engineering

III. ANNOUNCEMENTS

The UW System has recommended a 3% / 3% increase in the pay plan over the next two years of the biennium. The governor has not yet presented his budget to the legislature.

IV. INFORMAL REPORTS – See Attachment 2

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

As 47 voting faculty members were present, a quorum was present.

VI. AUTOMATIC CONSENT BUSINESS

- A. Minutes of the December 7, 2018 meeting
- B. Computer Science Program and Computer Engineering Program Changes – See Attachment 3
- C. Applied Mathematics and Computer Science Program Changes – See Attachment 4

VII. NEW BUSINESS

- A. Awards and Recognition Committee Charter – See Attachment 5

**CEAS FAC. DOC.
NO. 259**

Prof. Campbell-Kyureghyan moved to approve the revised Awards and Recognition Committee Charter.

Prof. Misra moved to amend the charter to state 3.7.1.A. “The Awards and Recognition Committee shall consist of five (5) voting members: three faculty members, one student, one Academic Staff, and one (1) non-voting ex-officio member representing CEAS administration.” and 3.7.1.E “The Secretary of the CEAS faculty will solicit nominations for the Academic Staff representative from faculty and staff. If more than one nomination is received, the Academic Staff representative will be selected by a vote of the CEAS faculty in conjunction with the CEAS faculty representative election process.”

The motion to amend was seconded and approved on a voice vote.

The amended motion was approved on a voice vote.

VIII. GENERAL DISCUSSION

Discussion items included delaying the due date for the Tuition Differential Funds proposals until February 15, 2019 and the efforts underway to update the strategic plan of CEAS.

There was extensive discussion of incidents of student behavior towards faculty and staff, and in particular female faculty and staff. There was significant concern over the lack of effectiveness of the Dean of Students office for dealing with this problem. The APC will consider developing policies for CEAS to deal with such student behavior internally, as well as developing a resolution seeking greater assistance from the campus on the issue. In addition, Dean Peters will raise the issue with the Provost.

IX. ADJOURNMENT


Meeting Adjourned at 11:55 a.m.

John R. Reisel, Secretary
CEAS Faculty

JRR
Attachments

Faculty and Staff Meeting

February 2019



UNIVERSITY OF WISCONSIN
UWMILWAUKEE
College of Engineering & Applied Science

UWM Strategic Directions

Student Success

Research Excellence

Community Engagement

amidst
S h i f t i n g C o n t e x t



UNIVERSITY OF WISCONSIN
UWMILWAUKEE
College of Engineering & Applied Science

2

Implementation Plan

- Outstanding Learning Environment
 - Focused on student success at undergraduate level – 24 metrics
 - College targets 10 metrics with 37 initial initiatives underway
 - Focused on quantity and quality (selectivity) at graduate level
- Research Excellence
 - Focused on Carnegie classification metrics
 - Research expenditures (increase from \$70K/faculty/yr to \$82K to \$100K)
 - PhD graduates (increase from 0.41 grads/faculty to 0.65 grads/faculty)
 - Sets research expenditure targets based on discipline-specific benchmarks (\$150K for most engineering disciplines)

Aligns with College goals and academic plan

College Strategic Goals

1. Make CEAS an outstanding environment in which to learn and to work
2. Create a dynamic environment and infrastructure to enhance innovative research
3. Anticipate and respond to market demands in order to produce graduates who are prepared to address and adapt to the changing needs of the marketplace and society
4. Build partnerships with stakeholders and enhance awareness of CEAS strengths and accomplishments

Academic Plan

Research Leads the Way

- Research growth and enhancement is the path to fulfilling the strategic goal of being top 100 College of Engineering
- Investment program underway
- Revamped and expanded matching program under development
- Doctoral fellowship program will continue
- Research support team elevating assistance
- Associate Dean search wrapping up

Undergraduate Education...

College Strategic Goal

- Anticipate and respond to market demands in order to produce graduates who are prepared to address and adapt to the changing needs of the marketplace and society

University Performance Metrics

- Retention and graduation rate
- Performance of targeted groups (underrepresented & Pell eligible)

...Undergraduate Education

Opportunity to re-envision the curriculum

- Need to introduce modern concepts
 - Such as “Smart X”: manufacturing, transportation, water systems, buildings, data (AI), etc.
- Better meet the needs of multiple categories of students from a diverse set of backgrounds
- Identify efficiencies in structure and delivery
 - E.g., can shared courses across programs improve efficiency and support modern content?

Discussions with Chairs, In Curriculum Committee, In Departments

- Focus on new, even idealized, curriculum; not on revising or modifying our existing curriculum
- Envision what should be; worry about transition later

Implications

Research is Critical

- Strategic Value for University and College
- Aligns with University’s Goals and New Metrics
- Directly contributes to College/Department/Faculty Funding

Graduate Programs present Important Opportunity

- Attract Tuition-paying Students
- Deliver Cost-effectively
- Generates Resources Direct to College/Department

Student Success (Retention & Graduation Rate) become more Valuable

- Strategically important to University (new performance metrics)
- Engineering leads in this area and can deliver more
- Helps our students...who become alumni

INFORMAL REPORTS

Office of Student Services – Todd Johnson
No Report

Career Services – Juli Pickering
No Report

Curriculum Committee – Prof. A. Rahman
No Report

Graduate Program Subcommittee – Prof. Liao
No Report

Academic Planning Committee – Prof. Patrick
No Report

Faculty Senate – Prof. Reisel

In its December meeting, the Senate conducted routine business, such as revisions of committee charters. In its January meeting, the Senate met with UW System President Ray Cross, who addressed a variety of issues. Perhaps most significantly, he appears to be open to trying to introduce an appeals process into the Post-Tenure Review policy.

COMPUTER SCIENCE PROGRAM AND COMPUTER ENGINEERING PROGRAM CHANGES

Computer Engineering

Summary of Change: Commun 105 Business and Professional Communication is no longer required as part of the 6 credit GER Social Science requirement. Students can select any campus approved GER Social Science course to satisfy the 6 credits.

Rationale: The Commun 105 requirement was put into place prior to the campus Oral & Written Communication Part B (OWCB) GER requirement. The OWCB requirement is sufficient. Commun 105 no longer needs to be required.

Computer Science

Summary of Changes:

1. Commun 105 Business and Professional Communication is no longer required as part of the 6 credit GER Social Science requirement. Students can select any campus approved GER Social Science course to satisfy the 6 credits.
2. Add Math 222 Honors Calculus II to the Applied Mathematics Elective List.

Rationale:

1. The Commun 105 requirement was put into place prior to the campus Oral & Written Communication Part B (OWCB) GER requirement. The OWCB requirement is sufficient. Commun 105 no longer needs to be required.
2. The standard calculus courses (Math 232, 233) are already approved math electives. This change adds the calculus for Honors students.

Proposed: (As of Jan 17, 2019)

~~Deletions are strikethrough and dark red.~~

Additions are bright red.

Highlighted on page 1, in 3rd paragraph – changes due to L&S Assoc Dean modifications 1/16/19. [We'd asked the 80 cr in L&S be removed, she said make it 75, and we'd asked all the breadth in the paragraph be removed, she said keep the 8 cr in NS outside of math/stat.]

Highlights on pages 2,3: ActSci – the math dept has asked that some of our courses be converted to a new ActSci curricular area (the actuarial science courses). If that is approved we need the ActSci courses to count toward AMCS. If it is not approved those portions of this motion would be automatically deleted.

Applied Math and Computer Science Major Requirements

Students who intend to complete the program in four years will need to begin taking mathematics in their first semester. Such students should have a University of Wisconsin-Milwaukee mathematics placement level of 30 (ready for precalculus) or better.

Admission

As soon as students realize their interest in the AMCS degree, they should consult with an AMCS advisor either in College of Engineering and Applied Science or College of Letters and Science, who assists in planning a program. ~~Students may be given the AMCS classification at any point in their studies; however, they are not formally admitted to the major until their junior year.~~ Admission to ~~the junior year of~~ the program requires a GPA of at least 2.500 in 8 credits of mathematics courses at or above the 200 level and 6 credits of computer science courses at or above the 200 level.

Degree Requirements

For the BS (AMCS) degree, 120 credits are required, of which ~~75~~ 80 must be taken from the College of Letters and Science. Students must satisfy the general education requirements (GER) of the University. ~~They must complete at least 6 credits each from humanities and social sciences, 3 credits from the arts, and 6 additional credits in any of these three areas or in foreign languages.~~ Students also must take at least 8 credits of natural sciences outside of mathematics or mathematical statistics. ~~, including at least one laboratory course from biological sciences, chemistry, or physics. A cultural diversity course must be included among the humanities and social science courses selected.~~

An overall GPA of 2.000 on all coursework attempted at UWM is required for this degree. In addition, students must achieve a 2.000 GPA on all coursework attempted, including transfer work. A minimum 2.000 GPA must be earned on all 300-level and above courses taken to satisfy the advanced requirements. Students satisfy the residency requirement for the degree by completing at UWM both a minimum of 15 credits of the required advanced courses and one of the following:

- The last 30 credits;
- 45 of the last 60 credits;
- Any 90 credits.

| Code | Course List Title | Credits |
|--|---|---------|
| Core Requirements | | |
| COMPSCI 250 | Introductory Computer Programming | 3 |
| COMPSCI 251 | Intermediate Computer Programming | |
| COMPSCI 315 | Introduction to Computer Organization and Assembly Language Programming | 3 |
| COMPSCI 317 | Discrete Information Structures | 3 |
| Select the following (or an equivalent sequence): | | 12 |
| MATH 231 | Calculus and Analytic Geometry I | |
| MATH 232 | Calculus and Analytic Geometry II | |
| MATH 233 | Calculus and Analytic Geometry III | |
| MATH 234 | Linear Algebra and Differential Equations | 4 |
| or MATH 240 | Matrices and Applications | |
| MATH 341 | Seminar: Introduction to the Language and Practice of Mathematics | 3 |
| Advanced Requirements | | |
| COMPSCI 351 | Data Structures and Algorithms | 3 |
| COMPSCI 535 | Algorithm Design and Analysis | 3 |
| Select 9 credits in COMPSCI at the 300 level or above | | 9 |
| Select 6 credits from MATH and/or MTHSTAT and/or ACTSCI at the 300 level or above | | 6 |
| Select one of the following pairs : | | 6 |
| MATH 305 & MATH 405 | Introduction to Mathematical and Computational Modeling and Mathematical Models and Applications | |
| MATH 313 & MATH 315 | Linear Programming and Optimization and Mathematical Programming and Optimization | |
| MATH 320 & MATH 322 | Introduction to Differential Equations and Introduction to Partial Differential Equations | |

| Code | Course List | Title | Credits |
|--|---|-------|---------|
| MATH 413 & MATH 415 | Introduction to Numerical Analysis and Introduction to Scientific Computing | | |
| MATH 413 & MATH 417 | Introduction to Numerical Analysis and Computational Linear Algebra | | |
| MATH 415 & MATH 417 | Introduction to Scientific Computing and Computational Linear Algebra | | |
| MATH 521 & MATH 522 | Advanced Calculus I and Advanced Calculus II | | |
| MATH 431 & MATH 531 | Modern Algebra with Applications and Modern Algebra | | |
| MATH 531 & MATH 535 | Modern Algebra and Linear Algebra | | |
| MATH 601 & MATH 602 | Advanced Engineering Mathematics I and Advanced Engineering Mathematics II | | |
| MATH 621 & MATH 622 | Introduction to Analysis I and Introduction to Analysis II | | |
| MATH 631 & MATH 632 | Modern Algebra I and Modern Algebra II | | |
| MTHSTAT 361 & MTHSTAT 362 | Introduction to Mathematical Statistics I and Introduction to Mathematical Statistics II | | |
| MTHSTAT 361 & MATH 571 | Introduction to Mathematical Statistics I and Introduction to Probability Models | | |
| Select 21 additional credits from CompSci, Math, and MthStat, and ActSci courses at the 300 level or above, beyond the "Core" as well as the above "Advanced" Requirements | | | 21 |
| Total Credits | | | 79 |

3.7 AWARDS AND RECOGNITION COMMITTEE

3.7.1 Membership:

- A. The Awards and Recognition Committee shall consist of five (5) voting members: three faculty members, one student, one Academic Staff, and one (1) nonvoting ex-officio member representing CEAS administration.
- B. The faculty members shall be elected at large.
- C. The student member shall be a CEAS student in good standing. The student will be selected yearly by the Council of Engineering Student Organizations (CESO).
- D. The Office of the Dean shall designate the ex-officio administration member.
- E. The Secretary of the CEAS faculty will solicit nominations for the Academic Staff representative from faculty and staff. If more than one nomination is received, the Academic Staff representative will be selected by a vote of the CEAS faculty in conjunction with the CEAS faculty representative election process.

3.7.2 Responsibilities:

- A. The Committee shall be responsible for soliciting nominations from faculty, staff, students, alumni, and members of the industrial and business community for the following awards:
 - 1. Outstanding Teaching Awards (Spring)
 - 2. Outstanding Research Award (Spring)
 - 3. Outstanding Service Award (Spring)
 - 4. Outstanding Staff Service Award (Spring)
 - 5. Outstanding Student Award (Fall and Spring)
- B. The Committee shall submit its recommendations to the Dean no later than the last day of classes of the spring semester.
- C. The committee shall also make recommendations to the Dean related to establishment and awarding of scholarship funds to students within the College.

3.7.3 Election Procedures:

- A. Nominations may be made by faculty, groups of faculty, or departments.
- B. The Secretary of the Faculty conducts the election in April of each year. Two members are to be elected in even years, and one member is to be elected in odd years.
- C. No faculty may serve successive terms, and no member from the same department may serve concurrent or successive terms.
- D. The first faculty in alphabetical order shall call the first meeting to elect a chairperson.