

# Engineering Faculty Council

## Meeting Agenda

March 15, 2016

12:00 noon

202 Hammond Building

1. Approval of minutes for the meeting of February 16, 2016
2. Updates from Undergraduate Studies Committee (Zoubeida Ounaies)
3. Updates from Graduate Studies Committees (Esther Gomez)--NO ITEMS TO REPORT
4. Updates from Engineering Technology Committee (Ron Land)
5. Updates from Faculty Senate (Doug Wolfe)
6. Dean's Report (Amr Elnashai)
7. Other Business

# Engineering Faculty Council

February 16, 2016 11:00 a.m.

228 Hammond

Present: Amr Elnashai, Christine Masters, Conrad Tucker, Doug Wolfe, Esther Gomez, Gary Gray, Jose Palacios, Nanyin Zhang, Peter Butler, Ronald Land, Sven Schmitz, Terry Speicher, Zoubeida Ounaies

## Meeting Agenda

1. Approval of minutes for the meeting of January 12, 2016
  - Unanimously approved.
2. Updates from Undergraduate Studies Committee (Chris Giebink)
  - Course change (ENGR 408): Combining the ENGR 408 and ENGR 493 into one three-credit course.
    - Approved unanimously.
  - AE retention and Transfer Proposal: Request for revisions to new credit-window entrance-to-major process.
    - Approved unanimously.
3. Updates from Graduate Studies Committees (Esther Gomez)
  - 1 Program Proposal: add a one-year residence-based non-thesis Master of Science Degree (M.S. ESMCH)
    - Approved unanimously.
  - 2 Graduate Faculty Nominations
    - Mohamed Almekkawy
    - Daniel Finke
4. Updates from Engineering Technology Committee (Ron Land)  
No report.
5. Updates from Faculty Senate (from the last Senate Meeting January 26<sup>th</sup>, 2012. Next Senate Council meeting is 2/23/16, Doug Wolfe)
  - The Faculty Advisory Committee met with President Barron and Provost Jones to discuss:
    - Student Engagement Initiative
    - Timeline of response to reports of possible ethics violation to the Financial and Compliance Hotline
    - Public-private partnerships for construction projects
    - "State of the State"
    - Strategic Plan,
    - Promoting the "Penn State Values" statement,
    - Vice Provost for Information Technology
    - Updates on searches for Deans
    - Canvas, Admissions and LionPATH, and WorkLion
  - Executive Vice President and Provost Nick Jones
    - Committee on Governance and Long-Range Planning of the Board of Trustees voted to support the draft Strategic Plan.
    - The full Board will consider the plan at its next meeting.

- A structure for governance/oversight of the plan will be developed.
  - With the resignation of Kevin to accept a position with Internet2, Matthew Decker, CISO for the Applied Research Lab, will serve as Interim Vice Provost for Information Technology until the position is filled.
  - Interviews are being conducted with candidates for Dean of Penn State Law and the School of International Affairs. The search for Dean of Dickinson Law will be initiated after the Penn State Law search is completed. The search for the Chief Information Security Officer continues.
  - Implementation of Work Lion continues; a security review was recently conducted.
  - LionPath implementation continues. There appears to still be some bugs in the system and these are being addressed as they are discovered.
- Vice President Blannie Bowen
    - A report is due to Middle States in April 2017.
    - General Education and the framework for assessment will be key features of the report to Middle States.
  - Vice President Madlyn Hanes reported three of four Chancellor searches have been completed successfully. The fourth search will be reinitiated.
  - Vice President Rob Pangborn
    - Reported that the number of undergraduate applications for the current admissions cycle is greater than the number for 2014.
    - Several issues arose in LionPATH regarding the admissions process. Roll-out of other aspects of LionPATH will be occurring in 2016.
  - Vice President and Vice Provost Craig Weidemann reported work is continuing on identifying a system that will provide a group function when Canvas replaces ANGEL.
  - Several CoE Faculty are being nominated for key faculty senate positions next year.

#### 6. Dean's Report (Amr Elnashai)

- Department-level faculty hiring still continues despite the budget issue at the university level. Administrative positions hiring will continue.
- Frontier line search will also continue, but plans to hire one as opposed to two as planned.
- Need feedback on ETM (have raised GPA). Currently departments have no control over how many students enter the majors. We want to grow yet our growth is slower than the national average. Need internal financial support to grow.
- Update on on-line program. Dean Butler's office is working on a plan to expand our online offerings. Two considerations for this expansion: 1) almost a condition for the provost to consider our blue print and future funding for COE; 2) the target enrollment for the World Campus is very high. Expected to grow from the current 14,000 to 45,000 students and COE has the potential to contribute to this growth.
- The Graduate Council is concerned about the one-year non-thesis MS program without a research component. Amr will meet with the Graduate Council in March and welcome any advice to prepare him for the meeting.
- IT reorganization:

- External review in 2014 by 3 people (business, ITS, and IT director from Purdue). The intention is to create an ideal IT organization chart for COE and review and map out what we have.
- Amr had a meeting with the acting Director of ITS. Already have an excel sheet of the 59 IT staff in the departments and college.
- The Provost is interested in supporting the college to establish an integrated IT model at three levels: departments, college, and university. Next, departments need to identify who's doing which function in IT. Then will work on an integrated plan.
- Update on the blue print of COE.

## 7. Other Business

None.

**Undergraduate Studies Curricular Review Committee**  
**Summary Report for**  
**Engineering Faculty Council Meeting March 15, 2016**

|  | <b>Type and Description of Change</b> | <b>Description or Rationale for Curricular Actions</b>  |
|--|---------------------------------------|---|
| <p><b>CMPSC 202 - Programming for Engineers with FORTRAN</b></p> <p>Submitted by: Brad Sottile and John Hannan</p> | <p><b>DROP</b></p>                    | <p>The use of FORTRAN has declined in industry relative to other programming languages. Likely due to this, enrollment for this course at University Park has been small and declining; when the course was last offered at University Park in Fall 2013, there were only 29 students enrolled in the course. The Commonwealth Campuses no longer teach this course. There is a growing national consensus that FORTRAN, despite its benefits, should not be the first language learned by students. Since Fall 2013, we are not aware of any major program that has been disadvantaged by the discontinuation of the course, so we seek to make the course drop effective. Alternative courses are available for each of the possibly affected Departments, most typically CMPSC 200 Programming for Engineers with MATLAB, and CMPSC 201 Programming for Engineers with C++. CSE commits to continuing to make these courses available at University Park going forward, and we believe sufficient alternative courses are available at the Commonwealth Campuses.</p>  |
| <p><b>ENGR 422 - Leadership of International Virtual Engineering Teams</b></p> <p>Submitted by: Meg Handley</p>    | <p><b>ADD: New Course</b></p>         | <p>ENGR 422 provides students with the opportunity to develop intercultural engineering collaboration skills (IL). The course focuses on developing leadership competence in cross-cultural teaming through a virtual learning environment (IL). Students will team with students from other countries on completing a project with socially relevant solutions (IL).</p> <p>Students completing this course will:</p> <p>Acquire and apply a theoretical foundation in appropriate engineering design across cultural and international boundaries (IL); Discuss contemporary international engineering development, ethics, and project leadership principles as they relate to intercultural communication in engineering teams (IL); Demonstrate engineering project collaboration and leadership skills in the context of virtual cross-cultural interdisciplinary teams; Assess business and leadership skills displayed by others and critically evaluate current international events and assigned reading material (IL).</p> <p>Students will be evaluated on these learning objectives through a variety of methods such as presentation of a semester long team project, critiques and reflection of relevant literature, papers, and peers reviews. This course is part of the international track within the engineering leadership development minor and will be offered every spring semester. This course may substitute for ENGR 409 (Leadership in Organizations, 3 credits) within the Engineering Leadership Development Minor.</p> |

|   | Type and Description of Change                         | Description or Rationale for Curricular Actions   |
|---|--|---|
| <p><b>M E 109S</b> - <i>Explore Mechanical Engineering Research</i></p> <p>Submitted by: Mary Frecker</p> | <p><b>ADD:</b> New Course</p>                          | <p>Engineering First-Year Seminars are designed to engage students in learning and to facilitate the transition to college life.</p> <p>In this course students will demonstrate:</p> <ul style="list-style-type: none"> <li>• familiarity with research labs in mechanical engineering</li> <li>• the ability to communicate effectively in written correspondence</li> <li>• the ability to describe the activities of a particular research lab in both oral presentation and video formats</li> </ul> <p>Students successfully completing the course will be able to position themselves for an undergraduate research position at Penn State or at another university.</p>   |
| <p><b>M E 455</b> - Automatic Control Systems</p> <p>Submitted by: Eric Marsh</p>                         | <p><b>CHANGE:</b><br/>Addition of Long Description</p> | <p>The course is not being changed. A long description of the course was missing from the university bulletin and the department would like to ensure this course has one. This action will assist our students in making informed choices when selecting courses.</p> <p>The following long description will be added:</p> <p>This course covers the characterization and feedback control of linear time invariant (LTI) dynamic systems, classical feedback control theories will be emphasized. Basic concepts of analyzing, predicting and specifying the performance of dynamic systems, including transfer functions, dynamic response, block diagram, stability notions and sensitivity will be introduced. A thorough treatment of feedback controller design via Root-Locus method will be provided, which includes the design of lead/lag compensation and PID controller. Frequency domain controller design will also be introduced thoroughly, from the characterization of open-loop frequency response using Bode plot to the analysis of closed-loop frequency response. In this process, the notions of gain-phase relationship, Nyquist stability criterion, and stability margin will be discussed. Finally, the method of adding dynamic compensation to adjust the frequency response and improve the stability and performance of the system will be introduced.</p> |