

**MILWAUKEE SCHOOL OF ENGINEERING  
B.S. COMPUTER ENGINEERING  
INDUSTRY ADVISORY COMMITTEE  
Monday, November 8, 2021**

## Attendees

Both in-person in GT-402 and online in Teams

### Industry Members

Mr. James Conigliaro, Olive Branch Technology  
Mr. Joe Izzo, Rockwell Automation (retired)  
Mr. Tom Kraus, GE Healthcare  
Mr. Nick LaBonte, Milwaukee Tool  
Mr. Robert Laferriere, Direct Supply  
Mr. Dave Neuman, Milliman HealthIO  
Mr. Peter Novak, Brady Corporation  
Ms. Cynthia Petterson, Milwaukee Tool  
Mr. Joel Rondeau, Cognex Corporation  
Mr. Michael Trader, Rockwell Automation  
Mr. Jeff Zingsheim, IAC Chair, Northwestern Mutual

### Student Representatives

Ms. Ella Bruce, MSOE '25  
Mr. Cameron Bush, MSOE '23  
Mr. Jake O'Shaughnessy '24  
Mr. Asher Sprigler '25

### MSOE Faculty and Staff

Dr. Eric Durant, Professor and Program Director  
Dr. Darrin Rothe, Associate Professor  
Dr. Steve Williams, VP, Campus Infrastructure

**Recorded by:** Dr. Durant

At 8:30 AM, Dr. Williams gave a presentation of several recently completed and ongoing campus infrastructure projects including the recently completed Viets Tower, the new campus welcome center, and a central green space. Mr. Trader noted the consistent branding in the new campus spaces. VP Williams noted that we are building out MSOE's master plan and are focusing on common architectural themes.

**Meeting called to order at 8:50 a.m.**

Note: The committee discussed all items on the agenda, but several informational items are not repeated in these minutes.

## Welcome and Introductions

IAC Chair Mr. Zingsheim welcomed the members to this hybrid meeting hosted in Grohmann Tower Room 402 and simultaneously on Microsoft Teams. He then invited everyone to introduce themselves.

## Previous Minutes

Dr. Durant asked the members to review the previous meeting minutes, which are available on the website, and to send him any corrections or additions in the next few days.

## Update on Operations Modified for COVID-19

MSOE is currently at full, in-person capacity with masks required in classrooms, labs, etc. The members had a general discussion of modifications and challenges over the last year-plus of COVID-19 modified operations.

Mr. O'Shaughnessy noted that last year all his lectures were online, but labs were in-person. He said that some students were disengaged (specifically, not paying attention) in the virtual class meetings.

Mr. Bush noted that last year almost all his lectures were online, except Dr. Rothe's. For him being required to be in class helped.

Mr. Neuman asked about factors such as living at home vs. on campus and joining clubs and how this affected student engagement. A brief discussion followed.

## Engineering Minors

Dr. Durant presented the program's plans to offer a CE minor beginning in fall of 2023 when we convert to semesters.

The members were excited to hear about MSOE's foray into technical minors. Minors especially relevant for CEs could include CS (data science, AI) and ME (embedded systems issues).

## Semester Curriculum

As we approach department review and approvals, now is an ideal time for the IAC to review the semester version of the CE curriculum.

As we were reviewing topics kept in, added to, and removed from the current quarter curriculum, Mr. Izzo and Mr. Trader noted that specialty topics that were formerly required can be taken as electives. It was noted that there are two program/technical electives in the new semester curriculum (up from two on the quarter system) and a free elective that students often choose to take within EECS. Mr. Izzo recalled several years ago that when CE dropped control theory EE continued to require it, noting that this fits into this pattern.

EE will also have a cohort of students doing senior design on a spring-fall semester sequence. CE will allow its students to follow this sequence, which will be useful for students graduating a semester early or late. We will need to decide whether to have a December senior design show for students finishing their projects in the fall semester.

Regarding the sequencing of the COM2001 (STEM Writing) and COM3001 (Presentations) classes, Mr. Trader noted that students often do presentations in internships, so it might be useful to have this material before fall of junior year. Mr. Zingsheim noted that Northwestern Mutual gives employees a course on this. The IAC discussed whether the order of these courses could be swapped. [N.B.: Dr. Durant confirmed after the meeting that they must be taken in sequence, unlike the current

communications core. However, since all required COM classes are offered every term, some students may find a way to complete them all by the end of the second year, especially if they have transfer or AP credit.]

Mr. Izzo noted that there are things that should be taught in school and things that can be taught in industry. Presentations can and are be taught in industry, but there is certainly need for speech /presentations class in the undergraduate curriculum.

## Electives

Dr. Durant reported on events and electives. Dr. Rothe reported on CE4100 Embedded Systems Prototyping elective which he taught again this year. In includes PCB design, use of 3-D printers, system powerup test, etc. The members commented that the course project seems like a great way to engage students.

## General Discussion

Mr. Neuman noted that a challenge is finding and hiring data engineering talent, including modeling, database, analytics, etc. Industry has made a big jump to data science, which is more about analysis and not building the tools. He asked if MSOE has considered about doing more about data management, data engineering, etc. Dr. Durant said that MSOE's CS program does some of this with its data science class [N.B.: CS3300; available to CEs if they also elect to take CS3400 machine learning as a technical/program elective]. Mr. Neuman noted this is helpful and would be even better if we encouraged students to take it via a minor.

## Adjournment

The meeting was adjourned at approximately 11:50 AM and most of the members on campus proceeded to a tour of Viets Tower given by Ms. Betty Albrecht, Assistant Dean of Residence Life.