

COLLEGE OF ENGINEERING FACULTY ORGANIZATION (CEFO)

MEETING MINUTES

Tuesday, November 28, 2023, 11:30 AM

Lunch available at 11:30 AM

EPIC G287

The following individuals signed the attendance sheet:

Ahmed Arafa, Jaime Berez, Cathy Blat, Nan BouSaba, Valentina Cecchi, Yuting Chen, Jim Conrad, Michelle Demers, Mahmoud Dinar, Abasifreke Ebong, Ahmed El-Ghannam, Wei Fan, Jim Gafford, Meg Harkins, Tao Hong, Simon Hsiang, Rob Keynton, Christoph Kossack, Kevin Lawton, Churlzu Lim, Kevin Lindsay, Dipankar Maity, Jose Martins, Glenn Moglen, Edward Morse, Brigid Mullany, Asis Nasipuri, Dave Naylor, John Nettles, Tobi Ogunro, Srinivas Pulugurtha, Praveen Ramaprabhu, Jeff Raquet, Jayaraman Raya, Ron Sass, William Saunders, Sam Shue, Ron Smelser, Lingguan Song, Tyler Stover, Brett Tempest, Mesbah Uddin, Regina Vrikkis, Ke Wang, Kimberly Warren, Qiuming Wei, Matthew Whelan, Wesley Williams, Jay Wu

(52 attendees)

AGENDA:

1. Welcome from CEFO President Jim Conrad

Jim Conrad called the meeting to order at 11:42 AM and introduced the agenda. There were no objections to accepting this agenda, and the meeting moved forward.

2. Minutes from the last CEFO meeting (October 31, 2023)

CEFO Secretary Kosta Falaggis presented the minutes from the last CEFO meetings.

He has mentioned that one faculty member has sent him an e-mail stating that he did not find his name on the list of attendees because he forgot to sign in. Kosta Falaggis mentioned that he would make one change to the preliminary version of the minutes and add that faculty member to the list of participants.

There were no objections to that change and the minutes. The minutes were approved.

3. Short remarks from CEFO President Jim Conrad

Jim Conrad gave some remarks regarding the CEFO constitution and the role of the faculty, where he emphasized that the curriculum is one of our rights to determine. We will meet this semester on a few Tuesdays between 11:30 AM and 12:45 PM in G 287.

He also mentioned an ad-hoc committee preparing a motion to allow proxy voting, which may require a change of the CEFO constitution. Jim Conrad asked whether there were additional volunteers for that committee, and one faculty member volunteered.

He also advocated finding volunteers for other important topics, such as (i) our entrance criteria, (ii) our changing computing environment, and, more recently, (iii) ongoing problems with the graduate school that has denied some assistant professors to be chair of master's and doctoral dissertation committees.

One faculty member mentioned that the issue with the graduate school also affects assistant professors in other colleges, though it happens occasionally. We will be making some efforts to have the graduate school discover the errors of their ways. And if that doesn't happen, we will bring forward a resolution on that topic in our next meeting.

4. Common First-Year Updates by Aidan Browne

Aidan Browne chairs the college-level common first-year (CFY) curriculum committee. He presented the recent developments.

- (1) Dean Keynton and Aidan Browne have met with the Dean of Sciences and the Chair of the Mathematics and Physics department. The purpose of the meeting was to revise the contents of Calculus I and Calculus II. The Dean of Sciences and both Chairs were open to implementing changes suggested by the College of Engineering, and a new committee will be formed to implement and work out a plan for possible changes.
- (2) Another point discussed during that meeting was the evaluation of the math skills of incoming students to determine which students are "calculus-ready." A possible way to achieve this is to make the SAT or ACT scores mandatory.
- (3) The original CFY brown-bag meeting has been postponed but will potentially be scheduled for next week. The reason why Aidan Browne decided to postpone the CFY brown-bag meeting was the fact that physics and math might affect these other courses. Dr. Browne also asked whether the faculty would like to postpone that discussion till January or whether we still want to have a brown bag next week and have it be a different topic.

5. Generative AI in CoE by Meg Harkins

Associate Professor Meg Harkins gave a short overview of generative AI tools, including their capabilities and limitations.

The university's position for using those tools is that they offer some guidance, but the language is vague. The guidance tells us that we need to learn how the students write to identify if it's truly in their characteristic of writing or not. There are recommendations that we should include the steps of the writing process so that we may avoid simply getting a final document that AI created.

- There are workshops available, e.g., "Getting Started with Chat GPT."

There are also dangers associated with generative AI,

- Current plagiarism detectors are not reliable.
- Can be used to speed up some mundane writing and coding.
- Often serves as a starting point but requires evaluation and modification.
- Risk of laziness and overuse can reduce critical thinking and research skills.

There is a concern about this happening in the real world, not just in the university environment. The College of Engineering doesn't have a position, and we all fall back to the university's position, which is pretty vague. What happened to instructors teaching first-year courses is that students have used generative AI to create, in some cases, chunks of submitted assignments, and they either have or have not cited it. The instructors are unsure how to respond because we don't know the college's position, and we want to have a united position on it so that we can refer to it in classes.

Meg Harkins presented a motion that another faculty member seconded, and the floor opened for discussions.

During the discussion, Meg Harkins emphasized that when students use AI as a foundation and then build on it, it should be cited (because it is not their original thought).

One faculty member asked what the correct way is to cite Chat GPT. One faculty member responded that the IEEE publication board just approved the use of generative AI, but there is a condition that the authors have to mention where they have used it.

A different faculty member mentioned that Chat GPT requires critical thinking skills because the output depends on the prompt.

Another faculty member asked how we can guarantee that Chat GPT is not plagiarizing the content despite citing a source. A different faculty member responded that we are moving the responsibility to Chat GPT by citing it.

Another faculty member responded that journals have software to check plagiarism, which is pretty good.

One faculty member mentioned that he was wondering how people felt when the first CAD software arrived, and people thought, oh no, people aren't going to know how to sharpen pencils anymore. We should be considering exploiting artificial intelligence tools to increase the value of education at UNC Charlotte because times are changing.

One faculty member also emphasized the importance of teaching the students how to cite.

Another faculty member proposed to ask the students to provide the prompt, i.e., how they used Chat GPT.

A different faculty member mentioned that there is room for flexibility. His thought is that it should be left up to the individual professor. It seems like a teachable moment. If he would lead a class, he would say, "If you use Chat GPT, here's how." He would then give examples of different ways of using AI and how to have them refer to it so that it's clear to them in this class. Also, if they've used generative AI somehow, they will communicate it according to how I'm giving them examples of how it's done. There is no need for a uniform approach across the college.

One faculty member commented that "people die" if you propagate bad information in technical reports. So, there are very severe implications. As a professional engineer, you are required to do due diligence. Students will not have the depth of knowledge to discriminate what is useful information, what's good information, what's correct, and what's incorrect. So, they're just getting into a habit of propagating something generated with a different understanding than they had. He thinks it's incumbent upon us to emphasize that, as professionals, you don't just use the computer to generate everything you can spend time on.

Dean Keynton mentioned that he was on a panel recently, and a colleague from Georgia Tech was on the panel, too, and they were saying that they were "All in on AI across the board."

One faculty member mentioned that we also must be aware of the academic integrity part we won't catch. Students are using multiple AI tools with different prompts for a single work. We could never prove an academic case. The students are ahead of us. I think we can spot Shakespeare. What happens if you ask it

to write it in the vein of a first-year freshman in engineering? That we don't get. Should we say anything more specific than the university policies? Most places I've seen have a university-based policy. He was questioning whether we can say anything more specific than what the university policy says due to the level of control.

One faculty member asked what the difference is to the current university policy. It was answered that we're also asking for a step for faculty to take, that they need to look at their assignments and make them more challenging. We are still asking students to think critically about what they're submitting, knowing that this is probably the foundation they're coming from.

One faculty member mentioned that Matlab is working with OpenAI and will create a small GUI to generate code snippets. Hence, if we are having a class where we're teaching Matlab, AI will be part of it. We must be teaching students how to use those tools. It will be a good starting point to go to the next level.

This faculty member also commented on the problematic wording in the motion over using AI tools because even the spell checker is an AI tool. Some changes have been made.

Some other changes to the language of the motions have been proposed.

One faculty member emphasized the importance of explaining the academic integrity policy to the students on day one.

One faculty member mentioned that Chat GPT should be used for problem-solving. We have to appeal to the integrity and ethics of the students because there are limitations to what they can find, and even Chegg doesn't have the necessary answer. And unfortunately, if we're using graders, we may not spot that they use Chegg. Likewise, if we're using graders, we may not spot an essay that would not be their words.

Another faculty member mentioned that the concern is cheating and the loss of critical thinking. Hence, instead of citing the usage of generative AI and its validation, we need to use a statement about how we utilize it.

One faculty member mentioned that tools were available during his time at NSF so that when a proposal was submitted, the technicians could see how much of the proposal was a new test that hadn't been submitted before. These plagiarism checks are available now; maybe there should be some investigation about using that as a way of policing if we want to police it instead of embracing it.

A faculty member mentioned that there is a wide variety of tools students might have access to; some are subscriptions, and some are free. If we encourage using those tools, we may have some obligation that we want to put in this policy related to the equity of that access. For instance, one student may get one tool that another student cannot get because of a missing invitation. The faculty member thinks that we don't need to be specific about how we police it, but it should be something that we're considering as we make this assignment.

Afterward, some changes to the language of the motion have been proposed and adopted through a friendly amendment.

The following final motion (shown below) has been put to a vote, and the majority of the assembly favored that motion. The motion has passed.

Motion

The College of Engineering Faculty hereby adopt the following position on the use of Artificial Intelligence (AI) technologies in College of Engineering courses:

- All CoE students should learn to respect and appreciate the strengths and limitations of AI technology. This should be reinforced repeatedly by all/many CoE faculty through individual course syllabi and discussions held in all/many classes.
- All CoE students should explicitly read, review, and adhere to the campus policy on Academic Integrity (<https://legal.charlotte.edu/policies/up-407>) with respect to faculty direction on the use (or non-use) of AI technologies in their class (or on individual assignments)
- All CoE students should **disclose the use of generative AI tools** whenever they use them when submitting assignments.
- All faculty should include their policy on the use of AI tools in their course syllabi.

6. CEFO meeting schedule for Spring 2024

Jim Conrad presented the meeting dates for Spring 2024 (January 23, February 20, March 26, and April 23).

7. Closing

All items on the agenda have been covered. The meeting ended at 12:38 PM.