

COLLEGE HAPPENINGS

February 22, 2022

FROM THE DEAN

DFWI Rates

Happy “Engineers Week,” everyone. This is a week recognized across the globe to celebrate how engineers make a difference in our world. For our role as faculty and staff preparing future engineering, computer science, and construction industry leaders, this is a week we can celebrate. One of our responsibilities as educators is the continuous improvement of our curriculum and student outcomes.

With this in mind, a metric the College Leadership Team has looked at recently is DFWI rates for our courses. DFWI rates are the percentage of students in a class who get a D or F grade, withdraw (“W”) from a course, or whose progress in the course is recorded as incomplete (“I”). Last semester the College of Engineering had 19 courses enrolling 1,848 students with DFWI rates over 20%. Of these courses, three classes (with 253 students) had DFWI rates over 50%.

Many classes have an inconsistent DFWI rate from year to year, and when different instructors teach the same course. For example, one of our large lecture classes had a DFWI rate of 56.0% in Fall 2021, but the same course had a DFWI rate of 23.7% in Fall 2020. Another class had a DFWI rate of 22.6% in Fall 2021 but a 5% DFWI rate in Fall 2020 and Fall 2018. The large changes in DFWI rates with instructor changes begs several questions:

- Is student learning different in these different sections of the same course? If so, how can we move towards consistency in better outcomes?
- Is there a different standard being used across different sections of the same course? Should that be acceptable?
- Are instructors aware of grade distribution differences between instructors, and would that be helpful?

For classes with high DFWI rates, is there a threshold rate which should trigger a review or conversation even if they are consistently high? How can those conversations be most effective? And, is there a threshold level where interventions from the department chair are warranted. Conversely, should there also be a review or discussion for classes with very high percentages of As and Bs?

I’ve asked our Department Chairs to share the DFWI data from their departments with their faculty and begin discussions about DFWI rates and course grade distributions. There could be several interventions that faculty propose following those discussions, including evaluating pre-requisite courses and expectations, communicating more effectively across course sections, and developing reviews of course assessments. I believe most faculty, students, and graduates from the College of Engineering take pride in the rigor of our curriculum. And, we appreciate the academic freedom faculty have in assessing learning outcomes in their courses and maintaining academic standards. However, we also need to engage in frank discussions about appropriate expectations, fairness, and promoting student success as we seek to improve our programs.



IN THE NEWS

[NDSU to offer new graduate programs](#)

[3 Minute Thesis finalists set](#)

[Create out-of-this-world technology](#)

CONGRATULATIONS

Please let [College Happenings](#) know about honors, awards, new grants and other announcements so we can share them with other faculty and staff.

NEW HIRES

Scott Handegard has joined the **Department of Civil, Construction and Environmental Engineering** as an Account Technician.

UPCOMING EVENTS

Thursday, February 24, **Talkback to Racism**. In honor of Black History Month, the President's Council for Diversity, Inclusion, and Respect, in conjunction with the Anti-Racism Coalition, will host a virtual event from 3:00 - 4:30 p.m. for students, faculty, and staff.

Thursday, February 24, **Tools of the Trade – NIH**. In this webinar, Hanover will explore the tools available to researchers as they consider submitting (or resubmitting) proposals to NIH. 11:00 – 11:45 a.m. [Learn more and register](#)

STUDENT RESEARCH DAY

NDSU Student Research Day is a one-day event on April 19, 2022, that is dedicated to providing NDSU graduate and undergraduate students an opportunity to present their research and creative works. Both oral and poster presentation options are available. This is an inaugural event resulting from a collaboration among NDSU EXPLORE, Gamma Sigma Delta, and the Graduate Student Council.

[Learn more and register to participate in Student Research Day >>](#)

Registration closes Tuesday, March 22, 2022

FUNDING OPPORTUNITIES

DoD: Defense University Research Instrumentation Program

This [announcement](#) seeks proposals from universities to purchase equipment and instrumentation in support of research in areas of interest to the Department of Defense (DoD). DoD interests include the areas of research supported by the Army Research Office (ARO), the Office of Naval Research (ONR), and the Air Force Office of Scientific Research (AFOSR). A central purpose of the Defense University Research Instrumentation Program (DURIP) is to provide equipment and instrumentation to enhance research related education in areas of interest and priority to the DoD. Therefore, proposals must address the impact of the equipment or instrumentation on the institution's ability to educate

students through research in disciplines important to DoD missions.

Deadline: May 13, 2022

NSF: Secure and Trustworthy Cyberspace

The Secure and Trustworthy Cyberspace (SaTC) program [NSF 22-517] welcomes proposals that address cybersecurity and privacy, drawing on expertise in one or more of these areas: computing, communication, and information sciences; engineering; education; mathematics; statistics; and social, behavioral, and economic sciences. Proposals that advance the field of cybersecurity and privacy within a single discipline or interdisciplinary efforts that span multiple disciplines are both welcome. Proposals must be submitted pursuant to one of the following designations, each of which may have additional restrictions and administrative obligations as specified in this program solicitation.

- CORE: This designation is the main focus of the multidisciplinary SaTC research program.
- EDU: The Education (EDU) designation is used to label proposals focusing on cybersecurity and privacy education and training.
- TTP: The Transition to Practice (TTP) designation will be used to label proposals that are focused exclusively on transitioning existing research results to practice.

CORE and TTP proposals may be submitted in one of the following project size classes:

- Small projects: up to \$600,000 in total budget, with durations of up to three years; and
- Medium projects: \$600,001 to \$1,200,000 in total budget, with durations of up to four years.

EDU proposals are limited to \$400,000 in total budget, with durations of up to three years. EDU proposals that demonstrate a collaboration, reflected in the PI, co-PI, and / or Senior Personnel composition, between a cybersecurity subject matter expert (researcher or practitioner) and an education researcher may request up to \$500,000 for three years.

Full proposals are accepted anytime.

RECENT PUBLICATIONS

For 2022, 21 publications by authors with the College of Engineering affiliation have appeared in various journals, according to the ISI Web of Science and submissions from faculty. Here are some of the most recent publications:

- Alhomodi, Ahmad F., Mark Berhow, William R. Gibbons, Ewumbua Monono, and Bishnu Karki. n.d. "Meal Nutritional Characteristics and Oil Profile of Sprouted, Dehulled, and Solvent-Extracted Canola." *Journal of the Science of Food and Agriculture*. Accessed February 15, 2022. <https://doi.org/10.1002/jsfa.11794>.
- Li, Yuzhan, Jong K. Keum, Jun Wang, Naisheng Jiang, Wim Bras, Michael R. Kessler, and Orlando Rios. 2021. "Multiscale Structural Characterization of a Smectic Liquid Crystalline Elastomer upon Mechanical Deformation Using Neutron Scattering." *Macromolecules* 54 (22): 10574–82. <https://doi.org/10.1021/acs.macromol.1c01622>.

See your name on this list? Help us get the word out about your amazing work by submitting it as a **Breakthrough Alert**. [This online form](#) is an easy, step-by-step guide for summarizing published research for the general public.

College Happenings is distributed to the NDSU College of Engineering staff and faculty every other Tuesday.

Read past issues of *College Happenings* [here](#).

Deadline for submissions to *College Happenings* is 12:00 p.m. Fridays.

Contact kyle.bosch@ndsu.edu to submit items for *College Happenings*.

Follow the College of Engineering on social media.

