



2023-2024

ANNUAL HIGHLIGHTS

Since 2004, the Center for Research on Learning and Teaching in Engineering (CRLT-Engin) has promoted evidence-based practices in engineering that enable students and instructors from diverse backgrounds and social identities to learn and thrive. This year, CRLT-Engin expanded its services in three ways. We piloted curricular enhancements in BME, CLASP, and CSE in collaboration with CRLT central and the Dean's office. We created faculty-graduate student partnerships as a part of the Teaching Engineering Equity Center. We also organized the Engineering Education Innovation Days, an event that drew participants from across the College of Engineering (CoE). Each of these initiatives are described on this page.

By the Numbers

3,768

Total participants
 (1,577 unique individuals)

2,529

Event attendees
 (1,317 unique attendees,
 76 total events)

54%

Percentage of
 instructors reached

\$152K

Amount given for
 educational grants



Diversity, Equity & Inclusion

CRLT-Engin remains a key partner in Michigan Engineering's NSF-funded "[Teaching Engineering Equity \(TEE\)](#)" Center. In Fall 2023, CRLT-Engin held a seven-session "Teaching Equity-Centered Engineering" community of practice for engineering instructors. We had 12 participants, representing 7 CoE departments. In May 2024, we held 2 teaching circles to support engineering instructors' professional development in designing equity-focused engineering courses; 22 faculty members participated. Seven CoE graduate students were given the opportunity to participate in these teaching circles. All graduate students were paired with one teaching circle faculty member in Summer 2024 to work on designing an equity-focused course element to be implemented in Fall 2024 or Winter 2025.

Additionally, CRLT-Engin staff collaborated with CRLT's Foundational Course Initiative (FCI) to develop a graduate level course on Equity-Centered Engineering. The course will be piloted as a 2-credit seminar course in F24, then as a 3-credit course in W25.

Photo: CRLT-Engin facilitators, faculty, and graduate students gather as part of a TEE Center Teaching Circle in spring 2024.



Promoting Engineering Education Innovation

Three departments (BME, CLASP, CSE) participated in the first cohort of curricular enhancement projects. The work included analyzing data for evidence of inequitable student experiences; co-developing sustainable processes for finding and addressing gaps/overlaps in curricular sequences; and creating a peer course review process.

In collaboration with CAEN and ADUE, over 230 attendees participated in the second [Engineering Education Innovation \(EEI\) Days](#) event in May 2024, a 29% increase from the previous year. There were over 40 speakers and 14 resource fair booths from across nine Engineering departments and 12 U-M organizations, as well as presentations from Microsoft and Google.

CRLT-Engin collaborated with CAEN, Nexus, ADGPE, and ADUE, on organizing the [Enhancing Engineering Education \(E3\) grants program](#), which awarded \$152K to 9 faculty projects.

Photo: Dr. Steve Skerlos presenting during a breakout session at EEI Days 2024.



The Teaching Circle has also given me just more confidence in feeling like I can do these things, that they're not out of reach...After doing these two options, I really feel a lot more confident in my ability to incorporate these concepts, to teach these things, and to do these things that I see my colleagues doing.

—Teaching Circle Participant



One-on-One Services

CRLT-Engin consultants, including the College of Engineering's graduate student Engineering Teaching Consultants (ETCs), met one-on-one 995 times with faculty, staff, graduate student instructors (GSIs), and undergraduate instructional aides (IAs) to discuss a variety of teaching topics. The instructional consultants also conducted 108 midterm student feedback (MSF) sessions. Through an MSF, consultants help instructors identify evidence-based teaching strategies to enhance their teaching in response to students' expressed needs and suggestions.

995

One-on-One services

6,572

Engineering students offered feedback this academic year

Elevating the Culture of Teaching

One way CRLT-Engin elevates the teaching culture is through our New Faculty Foundations (NFF) program. We developed a Canvas course for three cohorts of new faculty who joined U-M between June 2021-May 2024. It supports them in building a community and navigating the many resources within Michigan Engineering. Sponsored by ADAA, CRLT-Engin hosted a half-day, in-person orientation for 40 new faculty, including meeting college leaders, addressing questions raised in the Canvas course, and engaging in an info fair to learn about college-wide resources. The NFF program continues to support faculty via monthly gatherings that connect them to services, administrators and resources essential to their roles.

Photos:

Left: CRLT-Engin consultant, Rhonda Holton, discussing teaching and learning.

Center: New Faculty Orientation 2023.

Right: Dr. Steve Yalisove presenting at EEI Days 2024.

491

unique participants in customized workshops

756

new instructors who participated in the teaching orientation

717

instructors who participated in diversity, equity, and inclusion (DEI) events

Richard and Eleanor Towner Prize for Outstanding Engineering GSIs

2024 WINNERS

The Richard and Eleanor Towner Prize for Outstanding Engineering GSIs rewards creativity and innovation as an instructor. There were 47 total nominees, representing 11 of the 20 departments and programs at Michigan Engineering.

Honorable Mentions: Audrey-Rose Gutierrez (ECE) / Weichen Huang (CEE) / Paul Mokotoff (AERO) / Denislav Nikolov (ME)



Yifan Li
(IOE 463)



Aditya Varma
Muppala
(EECS 553)



Jana Pavlasek
(ROB 102)



Hang "Alex" Song
(CEE 582)