



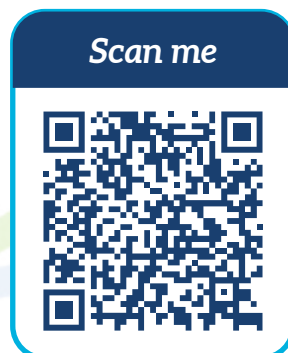
Engineering for One Planet

# Engineering for One Planet

## Events, Sessions, and Experiences during the **2024 ASEE** **Annual Conference**

**June 23-26, 2024**

**Portland, Oregon**





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## EOP-RELATED SESSIONS

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## SUNDAY - WEDNESDAY, JUNE 23 - 26

## Location

Title: **ASEE EOP Booth**Time: **Exhibit Hours**

Description: Stop by the ASEE-EOP booth to learn more and get your EOP water bottle!

Presenters: Various EOP grantees

Oregon Convention Center

## SUNDAY, JUNE 23

## Location

Title: **Engineering for One Planet: Choose Your Own Hands-On Curricular Adventure**Time: **1:00 - 3:30 PM (Workshop)**

Description: In this interactive workshop facilitated by experts in engineering education and active learning, participants will be introduced to and review the EOP Framework and companion teaching guides, as well as curricular examples of how the EOP Framework was used to create active and PBL teaching materials for engineering courses at Arizona State University (ASU). Participants will then be given a choice of hands-on activities that will lead to the creation of active learning activities that will later be compiled into a new EOP companion teaching guide for publication on the EOP website with attribution to all workshop participants. [Click](#) to register.

Presenters: Cindy Anderson (Alula Consulting), Allison Wolf (Arizona State University), Medha Dalal (Arizona State University), and Archana Shashidhar Mysore (Arizona State University)

Room C122, Oregon Convention Center

## SUNDAY, JUNE 23

## Location

Title: **IFEES Special Session Harnessing Our Engineering Skills for the Global Climate Crisis**Time: **1:15 - 2:00 PM**

Description: This panel will address key issues related to sustainability and the role of engineering schools across the globe in addressing this challenge. It will discuss the state of energy transition, as summarized in COP28, and describe other aspects of decarbonization across the various domains of the economy and society, including those contained in the UN Sustainable Development Goals and the National Academies grand challenges. Its goal is to further advance the call for action among engineering schools at the global scale in terms of both engineering education and research.

Presenters: Yannis Yortsos (Moderator; Dean, USC), Cindy Cooper (The Lemelson Foundation), Eric Lemelson (The Lemelson Foundation), and Elvira Osuna-Highley (Mathworks)

Willamette Room 7, Hyatt Regency Portland

## EOP-RELATED SESSIONS

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MONDAY, JUNE 24

Location

**Title:** ***A Multidimensional Approach to Providing Excellent FYE that Increases Belonging, Retention and Success of Engineering Students***

Room B113, Oregon Convention Center

**Time:** 11:00 AM - 12:30 PM

**Description:**

This paper presents a new model of engineering orientation through a multidimensional seminar approach and touch on how Engineering for One Planet will be integrated in the future. The presentation will outline the creation and implementation of a course that incorporates several evidence-based frameworks that holistically and programmatically support students, including cohort-based approach, academic and social integration to college, and the profession and activities that increase belonging, confidence, and self-efficacy. The model incorporates three dimensions: Introduction to the Engineering Profession, College Success, and Professional Skills. The presentation will describe each component, and will present outcomes with regards to persistence, retention, transfer, degree completion, and workforce preparation. Although not presented in this paper, this course will be used to incorporate sustainability dimension.

**Presenters:** Doris Espiritu (Wilbur Wright College)

MONDAY, JUNE 24

Location

**Title:** ***Everything You've Wanted to Know About EOP: Panel and Q&A with EOP Funders and Practitioners***

Room B112, Oregon Convention Center

**Time:** 11:00 AM - 12:30 PM

**Description:**

This session will provide participants a comprehensive understanding of the teaching and funding resources available and lessons learned from educators using EOP resources to achieve curricular change. Presenters from ASEE, ABET, NSF, EOP, and academic institutions will share their best practices and lessons learned from leveraging EOP resources to integrate sustainability into engineering courses and programs, as well as across and between institutions. Audience engagement through Q&A will be a priority in this session.

**Presenters:** Cindy Anderson (Alula Consulting), Michael Milligan (ABET), Stephanie Harrington (ABET), Ro Worthy (Kennesaw State University), Matthew Verleger (National Science Foundation), and Sarah Deleeuw (ASEE)

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MONDAY, JUNE 24

Location

**Title:** ***Broadening Sustainability Education in Engineering Disciplines***

Room F152, Oregon Convention Center

**Time:** 11:00 AM - 12:30 PM

**Description:** This project integrates the Engineering for One Planet (EOP) Framework in 30 courses under 15 faculty members within four engineering departments to positively impact approximately 385 students. The courses range from first-year to graduate-level. Lateral expansion of the Framework extends to non-current engineering departments and vertically expands to the university's Sustainability Office. The impact of EOP/sustainability instruction will be measured and all developed materials and findings will be freely disseminated via multiple mechanisms, particularly a companion website. Researchers have shown that the delivery methods of teaching sustainability varied among their survey respondents and interviewees. The proposed delivery methods are to integrate concepts of sustainability into existing core and elective courses, but also to provide routes for students to focus on sustainability. This is accomplished via project-based learning with and without external advisors, instituting engineering degree emphases and programs in sustainability, and showcasing successes with the Sustainability Office and university faculty for future expansion.

**Presenters:** David Wagner (University of Utah), Jennifer Watt (University of Utah), Douglas Schmucker (University of Utah), and Tony Butterfield (University of Utah)

MONDAY, JUNE 24

Location

**Title:** ***The Formation of Engineers to Address Wicked Problems (FEW) Model - Investigating Impacts of a Humanitarian Engineering Minor on Students Intercultural Competence***

Room E145, Oregon Convention Center

**Time:** 11:00 AM - 12:30 PM

**Description:** This effort explores the challenges of addressing complex global sustainability issues, known as Wicked Sustainability Problems, emphasizing the need for engineers to take and understand interdisciplinary approaches to navigate stakeholder disagreements and dynamics through the development of intercultural competence. The Humanitarian Engineering (HE) minor program at The Ohio State University is designed to equip future engineers with skills beyond technical expertise to prepare them to address such challenges. A multi-method approach was taken to explore to investigate potential impacts of student curricular pathways and experiences in the HE minor program on students' intercultural competence, using quantitative data provided by pre and post student results from the Intercultural Development Inventory (IDI) and qualitative insights from semi-structured interviews, focus groups, and course artifacts. While a longitudinal research effort is underway, the preliminary findings presented here highlight that students completing the HE minor experienced increased intercultural competence, fostering their ability to

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understand stakeholder values and navigate societal complexities, but that further research efforts are required to correlate specific drivers of intercultural competence development in engineering students. A conceptual framework, the Formation of Engineers to Address Wicked Problems (FEW) Model, is proposed to highlight pedagogical structures that integrate the desired educational outcomes effectively and is built on prior literature and similar conceptual frameworks within the Engineering for Sustainable Development and Intercultural Competency domains. This paper highlights the importance of preparing engineers to address multidimensional challenges from an interdisciplinary approach while positioning Humanitarian Engineering as potentially an effective pedagogical process to prepare engineers to address sustainability-related challenges.

**Presenters:** Patrick Sours (The Ohio State University)

## MONDAY, JUNE 24

## Location

**Title:** *Collaborating for Change: Working With Students to Create a More Sustainable Future in Engineering Education and Practice*

Room C126, Oregon Convention Center

**Time:** 3:15 - 4:45 PM

**Description:** Curricular change is typically seen as the domain of faculty and campus administrators. However, such an approach fails to tap into the many benefits of engaging students in the process. Such benefits include the incorporation of fresh and diverse perspectives, innovative and creative ideas, energy and enthusiasm, and the knowledge that the student experience is being designed for and with students. In this highly interactive panel, we will hear from two undergraduate students and one recent graduate about their journey towards becoming changemakers. We will explore how their personal experiences, values, beliefs, and sociocultural contexts shape their access to, and desire for, sustainability-focused activities, and the degree to which they feel empowered to promote the kinds of changes they would like to see in the engineering education system. Following the panel, participants will be guided through a process of creating their very own plan for engaging students in promoting curricular change on their campus.

**Presenters:** Victoria Matthew (EOP), Hadley Willman (Cal Poly San Luis Obispo and Engineers for a Sustainable World), Reese Simancek (University of Miami) and Emma Telepo (Michigan State)

## MONDAY, JUNE 24

## Location

**Title:** *The Wicked Engineer: Centering Intercultural Competency and Equity (Resource Exchange)*

Portland Ballroom C, Oregon Convention Center

**Time:** 3:15 - 4:45 PM

**Description:** Instructional Showcase

**Presenters:** Patrick Sours (The Ohio State University)

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## MONDAY, JUNE 24

## Location

Title: ***EOP Happy Hour***Time: **4:30 - 6:00 PM**Description: Enjoy drinks and appetizers with EOP staff, friends, grantees, and network members. Spots are limited, registration required. [Click](#) to register.

Presenters: Cindy Cooper (The Lemelson Foundation)

Coopers Hall, 404 SE  
6th Ave Portland, OR  
97214

## TUESDAY, JUNE 25

## Location

Title: ***Corporate Member Council Keynote/Fireside Chat***Time: **8:00 - 9:00 AM**

Description: In this engaging session, Jim Hanna, Director, Datacenter Engineering, Procurement and Construction, Microsoft, will lead a thought-provoking dialogue with Yash Tadimalla, a PhD candidate in Computer Science studying inclusive AI and intersectionality in tech, Yash brings a fresh perspective on the changes needed to prepare STEM students for the challenges of our time, including topics such as AI, equity, and sustainability. Jim, drawing from his expertise and experience in sustainability leadership roles across diverse sectors including datacenter engineering at Microsoft, will also share insights on addressing critical issues facing the engineering profession.

Presenters: Yash Tadimalla (UNC-Charlotte) and Jim Hanna (Microsoft)

Portland Ballroom A,  
Oregon Convention  
Center

## TUESDAY, JUNE 25

## Location

Title: ***Mechanical Engineering Sustainability Curricular Content and Bachelor's Degrees Awarded to Women***Time: **9:15 - 10:45 AM**

Description: Mechanical engineers can play an important role in contributing to a sustainable future. Increasing the amount and visibility of sustainability-related content in mechanical engineering (ME) curricula and courses may broaden the demographics of students earning ME degrees. For example, ME lags environmental engineering with respect to the percentage of Bachelor's degrees awarded to women in the U.S.; e.g., mechanical 17.3% versus environmental 57.8%. Potential correlations between the sustainability scores of a university under the American Association for Sustainability in Higher Education (AASHE) STARS rating system and the percentage of engineering Bachelor's degrees awarded to female students were explored. Courses with sustainability content were identified using information submitted by universities to the AASHE STARS program and/or course catalogs.

Room C121, Oregon  
Convention Center



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This included Bachelor's level ME courses and general engineering courses required for ME students. The data set included 89 ME programs in the U.S. that were ABET EAC accredited, of which 72 programs had AASHE STARS scores. There were weak statistically-significant correlations between the total AASHE STARS scores and the percentage of engineering and ME Bachelor's degrees awarded to females. However, there was not a direct correlation between the percentage of females awarded ME Bachelor's degrees and the number of ME courses with sustainability. The demographics of students earning Bachelor's degrees in ME is likely due to a broad array of factors beyond the extent that sustainability is evident in the courses. For example, differences among private and public institutions were significant. Strong correlations were found between the number of mechanical engineering courses with sustainability and the percentage of Bachelor's degrees earned by females when relationships were explored within single states and either public or private institutions. This preliminary work suggests that sustainability may help attract and retain female students to mechanical engineering, sparking interest in future research.

**Presenters:** Angela Bielefeldt (University of Colorado Boulder) and Joan Tisdale (University of Colorado Boulder)

## TUESDAY, JUNE 25

## Location

**Title:** *Industry Day Panel: When Every Job is a Climate Job: The Role of Engineering Education*

Room B115, Oregon Convention Center

**Time:** 11:00 AM - 12:30 PM

**Description:** As the climate crisis pushes corporations to pursue net zero goals and institute practices that prioritize social and environmental impacts, employers are facing a growing green skills gap. Join this panel discussion sponsored by the ASEE Corporate Member Council to explore how employers are reimagining every job as a climate job and what they need from engineering education today. A panel of global leaders in climate, job trends, and the engineering industry will discuss macro climate trends fueling industry hiring demands and ways that industry and higher education are collaborating to prepare engineering students.

**Presenters:** Joel Clement (Moderator, The Lemelson Foundation), Michelle Benavides (International Society of Sustainability Professionals), Roth Chan (Siemens), J'reysha Brannon (City of Portland), Jim Hanna (Microsoft), and Yash Tadimalla (University of North Carolina-Charlotte)

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TUESDAY, JUNE 25

Location

Title:

***Infusing Sustainability Into Diverse Courses and Programs Using Open Source Engineering for One Planet (EOP) Teaching Resources***

Room C125, Oregon Convention Center

Time:

1:30 - 3:00 PM

Description:

Fueled by the input and collaboration of a growing global community, the EOP initiative fosters curricular transformation through three interrelated approaches: 1) developing and sharing teaching resources through community feedback and vetting in diverse courses and programs, 2) funding faculty change efforts and supporting faculty capacity-building, and 3) activating and supporting collaboration among diverse stakeholders across sectors. In this paper, we focus on the first approach and discuss how these open-source teaching resources have been and are being developed, impact to date, and areas for future work. The paper will share the unique ways these resources have been co-created by hundreds of cross-sector stakeholders and used in curricular change efforts across diverse institutions – including Minority-Serving Institutions, R1 and R2 universities, and community colleges – what lessons are being learned that can help faculty with their efforts to infuse sustainability into their courses, and what else is needed to go beyond changing discrete courses to changing the course of engineering.

Presenters:

Cindy Anderson (Alula Consulting) and Cindy Cooper (The Lemelson Foundation)

TUESDAY, JUNE 25

Location

Title:

***Cultivating a Sustainable Mindset in Undergraduate Engineering through the Engineering for One Planet Framework***

Room C125, Oregon Convention Center

Time:

1:30 - 3:00 PM

Description:

Sustainability is an intersection of environmental, social, and economic perspective. A sustainable mindset finds solutions to restore nature and its resources to help local, regional, and global communities and reduce economic burden on an establishment. Engineering and manufacturing units have recognized the importance of sustainability and life cycle assessment (LCA) of a product. Aspects such as design, material choice, manufacturing technique, packaging selection, energy efficiency, emissions, and waste disposal are now critical elements of design decision making to comply with regulations. Corporations are now trying to incorporate best sustainable practices into organizational workflow. This makes it critical to foster a sustainable mindset among the new generation of engineers for them to utilize sustainable choices when designing and manufacturing an engineered product. To accomplish this goal, four sustainable manufacturing mini-class modules (2-3 class hours) were designed for undergraduate engineering classrooms from first year through senior year. Student learning outcomes for each module were mapped to the Engineering for One Planet (EOP) Framework. Impact is being evaluated and results will be shared.

Presenters:

Devina Jaiswal (Western New England University)

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TUESDAY, JUNE 25

Location

**Title:** *Empowering Change: The Role of Student Changemakers in Advancing Sustainability within Engineering Education*

Room C125, Oregon Convention Center

**Time:** 1:30 - 3:00 PM

**Description:** Over the last decade, we have seen an increase in the number of engineering programs that integrate sustainability. However, employer demand for green skills continues to outpace the supply. Furthermore, most engineering students are unable to access the educational experiences that will prepare them for sustainability-focused careers. Engineering for One Planet (EOP) is one of the initiatives working to address this gap by using a multi-pronged approach to support and accelerate the integration of social and environmental sustainability into engineering education. EOP's efforts have proven successful in fueling hundreds of courses across disciplines to integrate sustainability. While the EOP initiative has intentionally engaged students through a number of avenues, faculty champions have been at the center of curricular change efforts. Thus, the approach has not yet tapped the full potential of student changemakers to advocate for and support curricular change. This paper draws upon primary research conducted during a workshop at the Engineers for a Sustainable World (ESW) conference in 2023 to understand students' motivations and capacity to support curricular change efforts and students' innovative approaches and priorities for curricular change. The paper also integrates the autoethnographies of student participants of the Engineering for One Planet Network (EOPN). The autoethnographies of EOPN student participants provide a first-hand perspective of students' experiences, benefits, and challenges on their journey toward becoming changemakers. This paper advocates for the active involvement of students in curricular change and highlights the potentially powerful role of peer networks and student-led initiatives in promoting sustainability within engineering education. By leveraging student changemakers' enthusiasm and innovative thinking, we can collectively work toward a more sustainable future in engineering education and practice.

**Presenters:** Victoria Matthew (EOP), Hadley Willman (Cal Poly San Luis Obispo and Engineers for a Sustainable World), Reese Simancek (University of Miami), and Emma Telepo (Michigan State University)

TUESDAY, JUNE 25

Location

**Title:** *Advancing Engineering Ethics Education using Active Learning*

Deschutes Ballroom A, Hyatt Regency Portland

**Time:** 1:30 - 3:00 PM

**Description:** In this paper, active learning strategies (role-playing) are employed to teach ethics to electrical engineering students for a holistic understanding of ethics violation and the moral responsibilities associated with seeking justice. An unconventional teaching method is

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explored that bridges the gap in applying ethical theory to case studies by enacting them. This approach enables students to understand the ethical dilemmas encountered in the profession and encourages them to seek support from authorized personnel rather than remaining bystanders. The research aims to empower students across various engineering programs to positively contribute to ethical responsibility by reevaluating their individual perceptions and embracing new perspectives for making moral judgements. The research outcome is evaluated based on a student survey collected over an academic year, which compares traditional teaching methods with active learning methods in terms of ethical understanding and team collaboration. The survey indicates that 92% of students strongly agree that learning ethics through role-playing leads to a better understanding of ethical responsibility, the impact of biased perceptions, and social upbringing. Additionally, the survey suggests that to enhance students' ethical awareness, a student-centered active learning workshop focusing on the NSPE and IEEE code of ethics would be more effective than quizzes or case studies assignments.

## Presenters:

Rajani Muraleedharan (Saginaw Valley State University), Tommy Wedge (Saginaw Valley State University), Erik Trump (Saginaw Valley State University)

TUESDAY, JUNE 25

Location

## Title:

***Leveraging the Engineering for One Planet Framework to (re) Center Sustainability in Engineering Education***

Room C125, Oregon Convention Center

## Time:

1:30 - 3:00 PM

## Description:

To catalyze curricular transformation and thus the training and practice of engineering, we proposed the creation of an Engineering for Sustainable Development specialization within the Department of Food, Agricultural and Biological Engineering incorporating learning outcomes from the Engineering for One Planet Framework. These efforts served to help institutionalize the ongoing sustainable engineering instruction at The Ohio State University in a meaningful way. Currently, engineering students at OSU do not have a formal pathway or structure to engage with sustainability-related, community-engaged content. While culturally competent sustainability focused coursework may be obtained piecemeal, it is certainly not universally accessible as a primary focus to engineering students with tight degree plan requirements within their majors. The proposed specialization is an important long-term programmatic creation effort to advance sustainability education within engineering. The department chair has supported a multi-year effort to support and create student-centric community-engaged learning opportunities. This department-driven (top-down) effort is also supported at college level by the Associate Dean and Director for Academic Programs in the College of Food, Agricultural and Environmental Sciences. The Engineering for One Planet Mini-Grant resources were to develop General Education course offerings within the Sustainability theme as well as technical electives that promote social responsibility. Course creation and revisions incorporated EOP learning outcomes; many of these revisions took effect in Autumn 2023. Additionally, one of the core courses

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of our proposed specialization will be offered on a satellite campus beginning Spring 2024. The EOP Framework provided the guiding principles for the proposed specialization. These programmatic elements balance student learning with community impacts while weaving Sustainability, Intercultural Competence and Cultural Awareness into a core tenet of engineering. Further, the EOP mentorship program was instrumental in guiding the project participants in creating buy-in from stakeholders across the university enterprise.

**Presenters:** Patrick Sours (The Ohio State University)

**TUESDAY, JUNE 25**

**Location**

**Title:** *Understanding the Nature and Evolution of Sustainability Mindset in First Year Engineering Students*

Room D139, Oregon Convention Center

**Time:** 1:30 - 3:00 PM

**Description:** T441-Best of Multidisciplinary Engineering Division (MULTI).

**Presenters:** A “sustainability mindset” can serve as a compass with which students can synthesize and direct their education to prepare for careers and lifestyles oriented around sustainability. This article reviews definitions and notions of sustainability mindset, leading to a broad framework comprising knowledge, skills, behaviors, and attitudes (KSBA). The article then describes the first year of a research study undertaken with a cohort of 11 freshmen (7 male, 4 female) who were accepted to join a new initiative in Sustainability Engineering in June 2023 at the University of Puerto Rico, Mayagüez Campus (UPRM). Results demonstrate that students develop their mindsets broadly across the K, S, B, and A spectrum, including mature conceptualizations of sustainability, as well as many personal and professional growth attributes, such as improved study skills and the ability to make connections between different courses and topics.

**Presenters:** Aidsa Santiago (University of Puerto Rico, Mayagüez Campus), Christopher Papadopoulos (University of Puerto Rico, Mayagüez Campus), and Krystal Colón (University of Puerto Rico, Mayagüez Campus)

**TUESDAY, JUNE 25**

**Location**

**Title:** *An Assessment of Students’ Perceptions in Curriculum Development Integrating Entrepreneurship and STEAM with Designing Green (Bio-inspired) Roofs*

D136, Oregon Convention Center

**Time:** 9:15 - 10:45 AM

**Description:** A paper presentation. This study aims to prepare future green entrepreneurs and T-shaped engineers by creating a curriculum that integrates entrepreneurship and STEAM with construction projects’ sustainable (bio-inspired) design and assessing students’ perceptions of

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this curriculum development. The guiding research question is: What are the assessment themes of students' perceptions of integrating entrepreneurship and STEAM with sustainability in a curriculum in which students design green (bio-inspired) roofs? These themes help to understand student voices and interpret the information they share at a deeper level toward continuous improvement to curriculum development. Subsequently, the researcher can gain more significant insights into educational effectiveness's who, what, and how.

**Presenters:** Dr. Nadia Al-Aubaidy (Norwich University)

## WEDNESDAY, JUNE 26

## Location

**Title:** *Perceptions of Sustainability Among Participants at the NSF REU Site on Sustainable Resilient Transportation Systems*

Exhibit Hall B, C & D,  
Oregon Convention  
Center

**Time:** 9:45 - 11:15 AM

**Description:** W278-NSF Grantees Poster Session

**Presenters:** Dr. Nadia Al-Aubaidy (Norwich University) Dr. Haritha Malladi (University of Delaware), Shameeka M Jelenewicz (University of Delaware), and Jovan Tatar (University of Delaware)

## WEDNESDAY, JUNE 26

## Location

**Title:** *Sustainability in Engineering Graphics and Bicycle-Powered Blenders*

Room D133, Oregon  
Convention Center

**Time:** 11:30 AM - 1:00 PM

**Description:** The purpose of this work-in-progress paper is to share developments related to an ASEE Engineering for One Planet (EOP) Mini-Grant Program Cohort 2 Award to the author that began in the summer of 2023 and ran through January 2024. The project has two objectives: 1) Use the EOP Framework (Figure 1) to modify learning outcomes in MEAM 1010 Introduction to Mechanical Design, a course that is already taught every semester to classes of ~80 students, and 2) Leverage the EOP Framework to create MEAM 2300, a new course on bicycle engineering and culture. The students have identified that outside MEAM 1010, there are no other mechanical engineering courses they can take in their first year. Course offerings in engineering that involve sustainability are also lacking, even for students in their second through fourth years. By pursuing these course modifications and design efforts in parallel, both of these issues can be addressed. The author is the instructor for both of these courses at the University of Pennsylvania in the Department of Mechanical Engineering & Applied Mechanics (MEAM).

**Presenters:** Dustyn Roberts (University of Pennsylvania)

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WEDNESDAY, JUNE 26

Location

Title:

***A Unique, Action-Oriented, Collaborative Approach to Co-Creating a New Open-Source Sustainability Teaching Guide under a Creative Commons License***

Room D133, Oregon Convention Center

Time:

11:30 AM - 1:00 PM

Description:

The Interdivisional Town Hall (ITH) session at the ASEE Annual Conference offers the opportunity for members from different divisions and unaffiliated attendees to come together to discuss topics of interest across the society. The 2023 ASEE ITH discussion was focused on how as faculty and instructors we may make a difference stewarding students through their educational experience and how we might consider sustainability as part of the engineering canon. This builds on the planning and structure of previous iterations of an ITH. In this paper, we share the history, evolution, and mindful structure for these events. We summarize recent efforts to present several important topics related to timely engineering education subjects as well as fostering discussion among participants via intimate, roundtable conversations based on provided discussion prompts. The 2023 session included a presentation of the Engineering for One Planet (EOP) initiative and Framework and the work to be done about including sustainability. It led directly to parallel roundtable discussions to share recommendations and generate ideas for a proposed list of actionable items. At the ITH, we benefited from individuals sharing and applying their skills, knowledge, and expertise to these action items in crafting shareable deliverables for guiding future efforts. The ITH has been included in the general conference schedule and will hopefully continue for some time to come.

Presenters:

Lynn Albers (Hofstra University), Cindy Cooper (The Lemelson Foundation), Cindy Anderson (Alula Consulting), and John Estell (Ohio Northern University)

