American Society for Engineering Education | Design in Engineering Education Division

DEED members,

We look forward to seeing you all in Portland, Oregon for ASEE 2024!
Please note the submission schedule below in the DEED Call for Papers.

Samuel Dickerson
2024 Program Chair

Elisabeth Kames
2024 Program Chair Elect

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The Design in Engineering Education Division (DEED) invites abstracts for papers to be presented at the 2024 ASEE Annual Conference to be held June 23 - 26, 2024, in Portland, Oregon. Abstracts may be submitted on topics related to the role of design in engineering education.

Abstract Submissions Open – **October 1st, 2023**
Abstract Submissions Due – **November 1st, 2023**
Draft Paper (for accepted abstracts) Due - **February 1st, 2024**

The 2024 Conference Authors Kit is available on this link:
https://www.asee.org/events/Conferences-and-Meetings/2024-Annual-Conference-(1)/Paper-Management/2023-Authors

The purpose of DEED is to disseminate knowledge, learning and best-practice experiences that improve the quality of engineering design education proficiencies and pedagogy. This division is relevant and inclusive to both engineering design instructors and research practitioners. DEED defines relevant and inclusive as applicable and comprehensive through the education and research processes to the design education community.

DEED seeks contributions on topics that include, but are not limited to:

- First-year Engineering Design
- Capstone Design
- Innovation in Design Education
- Design Instruction and Pedagogy
- Teams and Teamwork in Design Education
- Design for Community
- Interdisciplinary and Multidisciplinary Design
- Enhancing Design Education through Technology[1]
- Teaching Design in the age of AI
- Research in pre-college design education
- Sustainable Design
- Intersection of Design and “X”
- Assessment of Design Activities
- Design Realization
- Design Methodology including Design-based Entrepreneurial Mindset
- Case Studies, Reflections, or Interventions for remote, distant or hybrid mode Engineering Design Projects
- Exploring the intersection of Engineering Design and Social Justice
- Papers at intersections between the aforementioned topics and equity, access, diversity, and inclusion

[1] Including innovative uses computational tools such as CAE and CAD (e.g., generative design, human-machine collaborations, etc.)

Papers related to diversity, inclusion, and equity qualify for submission to a conference-wide best paper award.

Authors are encouraged to submit work that is beneficial to other design educators and to suggest strategies for transferability and/or implementation. Assessment of work is strongly encouraged, when possible, but not compulsory if it's not suitable for the topic at hand. DEED is also requesting proposals for Workshops, Panels, Special Sessions, new session topics and new sessions.

Reviewers shall use the DEED Rubric (appended to the end of this document) as a basis for the review. Authors please clearly identify your paper in the first line which of the below categories you intend to submit under:

1. Education Research and Assessment
2. Intersection of Design and "X" Research Papers
3. Survey/Literature Review
4. Design Methodology
5. Academic Practice/Design Intervention

Podium, Postcard and Poster Sessions
DEED accepts both completed research efforts and those that are a "Work in Progress" for inclusion as peer-reviewed papers in the annual conference. "Work in Progress" is a mechanism/forum for authors to share and receive feedback on preliminary work. "Work in Progress" submissions are identified both through the submission system and through their title, are included in the conference proceedings, and are typically presented in the DEED Poster or Postcard sessions. Accepted final papers will be published in the proceedings and presented in one of three different types of sessions: Podium sessions, Postcard sessions, and Poster sessions. Each are described briefly below:

1) Podium Sessions are traditional research presentations and will occur during division technical sessions. The podium talk format gives authors of papers an opportunity to provide a detailed overview of a research project or curricular innovation. Approximately six papers will be grouped thematically in technical sessions lasting 90 minutes giving each work about 10 minutes for presentation and 5 minutes for Q&A.

2) Postcard Sessions are a novel session type designed to report important innovations and current research efforts and open conversations. The postcard format gives authors of papers the opportunity to pitch their work with a two-slide (postcard back and front) overview of their work in five minutes or less. After the pitch is made, attendees will have the opportunity to talk with the authors and revisit their postcards while authors receive project feedback from interested viewers. Approximately 8 papers are grouped thematically in Postcard sessions.

3) Poster Session will occur over lunch during the division's poster session in the convention hall. The poster session format gives authors a large format venue to present research and course innovations in a public setting. Authors are expected to stand near their poster for the entire session to engage with poster session attendees.

All DEED papers will be placed in either a podium session or a postcard poster session by default with preference to the podium session slots being given to full papers and preference for postcard poster session slots being given to Work-in-Progress papers.

Authors may optionally select to present in the Poster Session by contacting the Program Chair and requesting placement in a Poster Session. Any accepted paper may be assigned to either a Podium or Postcard Session (even when the paper is not a “Work in Progress”).

All DEED manuscripts should be complete and ready to review upon submission, adhering to all standards of scholarly writing (based on the type of paper), including editing, reference formatting, and inclusion of all results. The authors should not make substantial additions or changes to the draft manuscript outside of those responding to reviewer comments. If papers have incomplete or missing sections, the authors will either be encouraged to consider a work-in-progress over a full paper or asked to resubmit in a subsequent year.

Publish to Present and Review to Publish Criteria
In addition to the ASEE “Publish to Present” requirements, DEED requires the support of its authors in “Review to Publish” at both the abstract and manuscript stages. Abstracts for review will be assigned **November 3** and are due no later than **November 17**. Blind manuscript reviews will be assigned **February 2** and are due no later than **February 23**. Authors may be required to review up to two abstracts and manuscripts.

Workshop, Panel and Special Sessions
DEED accepts proposals for sessions in the areas listed for paper submissions. An individual abstract for these sessions is required. Persons wishing to organize a DEED session should (1) contact the Program Chair via email to describe their intent to submit a session proposal AND (2) submit a paper abstract in Monolith providing the following: description of the topic of the session, format for the session, and proposed panelists. DEED officers and directors will review the submissions for appropriate content and (if required) recommend the session to ASEE. To be considered, proposals must be submitted before the paper abstract submission deadline (**November 1st**).

1) Workshop Sessions may be proposed in the areas listed for paper submissions. The abstract must include the following: workshop title, objective, description, speakers/facilitators, estimated headcount, and whether or not this workshop was similar to a prior ASEE workshop including the name of the prior workshop as this is the information required by the online form in Monolith. Workshops submitted directly on the ASEE site, prior to DEED approval, will not be recommended to conference organizers for inclusion.

2) Panel and Special Sessions may be proposed in the areas listed for paper submissions. These sessions differ from organized sessions in that they are not publish to present; however, an individual abstract for the panel session is required. The abstract must include the following: description of the topic of the panel, format for the panel session, and proposed panelists.

For information about any submission, see the ASEE website: http://www.asee.org. For questions or ideas concerning DEED topics or sessions, contact:

Program Chair:	Samuel Dickerson (dickerson@pitt.edu), University of Pittsburgh, Pittsburgh, Pennsylvania
Program Chair Elect:	Elisabeth Kames (ekames@floridapoly.edu) Florida Polytechnic University, Lakeland, Florida

Rubric Review Criteria for DEED Papers

Updated August 2023

Authors & Reviewers, please use this rubric for:

1. **Education Research and Assessment Papers**
   These papers tend to provide an evaluation of delivery methods, tools and content impacting design education and design learning. Papers in this category represent efforts toward demonstrating evidence-based pedagogy, and would typically be considered as research publications. These papers motivate a research question, provide a hypothesis, describe a repeatable methodology, and provide an analysis and discussion of results. Examples of Pedagogy Research and Assessment papers include Example 1. Works in Progress are allowed for this paper type.

2. **Survey/Literature Review Papers**
   These papers provide a comprehensive review of the literature on a relevant topic. DEED welcomes survey papers on topics of general interest to the DEED audience. In addition to providing the survey of literature, these papers should motivate the effort and provide a summary discussion of the topic based on the literature review. Examples of the Survey papers include Example 1.Works In Progress are NOT applicable to Survey/Literature Review papers.

3. **Design Methodology Papers**
   These papers tend to describe new methodologies in engineering design and engineering design education. DEED welcomes the presentation of significant new design methodologies, techniques or tools. Papers in this category should provide significant contextual background information demonstrating the novelty and utility of the new design methodologies, techniques or tools in engineering design and engineering design education. Additionally, the basis of the method / technology should be well detailed, include example applications and a discussion of the impact of this idea. Examples of Design Methodology papers include Example 1. Works in Progress are allowed for this paper type.

4. **Academic Practice/Design Intervention Papers**
   These papers tend to describe new design courses, new course activities related to engineering design, or new programs related to engineering design. DEED has a long tradition of supporting curricular practice papers that document academic innovation and best practices in the classroom. In order to support the most effective transfer of knowledge and experience of new curricular practices, papers should provide context of the work through a review of relevant practice literature and/or benchmarking of common and standard

practices. Details including context, unique aspects, and an overview of the methods and materials should be provided. Results (i.e., the impact of the innovation) and lessons learned should be provided and discussed. As results, consider one or more of the following:

- Documented improvement in learning outcomes through pre- and post-assessment of learning outcomes utilizing validated instruments;
- Results of standard institutional course evaluation surveys compared with departmental averages and/or previous versions of the course; and/or
- Comparison of results with prior practice or previous course structures. Detailed reflection on course effectiveness from course instructors is not a sufficient result for DEED manuscripts.

Examples of Academic Practice/Design Intervention papers include Example 1. Works in Progress are allowed for this paper type.

5. **Intersection of Design and "X" Research Papers**
   These papers research broader topics around engineering design education such as how design education intersects with social, cultural, organizational, or DEI topics. These papers are not about education interventions, but employ an educational research design with guiding research questions, clear method description, and provide an analysis and discussion of results. Examples of Other Research papers include Example 1. Works in Progress are allowed for this paper type.

Reviewer Instructions:

If the paper you are reviewing does not specify the type of paper in the title, then please contact the Program Chair with the name and record number for the paper so that the Program Chair can contact the author(s) for clarity.

Please use the rubric on the next page by paper type to review each paper that you were assigned. We discourage judgments based on reviewer interests or personal opinion. Please use the rubric to justify your decisions. Should you rank any categories in the "0" column, we recommend that you do not accept the paper. You may either recommend revisions or reject the paper. You do not have to attach the rubric but please complete the supplemental rubric if you are asked to after completing your initial review. **The "supplemental rubric" is actually mandatory** and aligns with the one below**.** Check any appropriate interest areas or paper award boxes in the online review system.

Comments to the author: Your comments to the author will help them to improve their work, so we encourage you to leave comments based on what you did and did not observe in their paper based on the rubric. You are welcome to use language from the rubric to advise authors on how to improve their work.

Comments to the Chair: Please indicate whether you believe this paper should be nominated for the **Best DEED Paper Award** or the **Best DEED Diversity, Equity, and Inclusion Paper Award (https://diversity.asee.org/deicommittee/best-paper-rubric/)** in your comments to the chair. Please put the total rubric points achieved in your comments.

DEED "Education Research and Assessment", "Academic Practice/Design Intervention" and "Intersection of Design and X" Paper Rubric

Total maximum points = 30 (3 x 10 categories)

Category /Points	3 - Excellent	2 - Good	1 - Satisfactory	0 - Needs Improvement
Originality (Contribution)	Content contains a highly original treatment of, or a new perspective on, the topic.	Content contains some original treatment of, or a new perspective on, the topic.	Content contains a moderately original treatment of, or a new perspective on, the topic.	Content contains a minimal original treatment of, or a new perspective on, the topic
Research Approach	The research approach is novel and/or sophisticated and appropriate for the purpose of the paper and is consistent with the perspective (quantitative, qualitative, mixed, or more specific).	The research approach is advanced and appropriate for the purpose of the paper and is consistent with the perspective (quantitative, qualitative, mixed, or more specific).	The research approach is basic, but still appropriate for the purpose of the paper, and is consistent with the perspective (quantitative, qualitative, mixed, or more specific).	The research approach is inadequate and/or not appropriate for the purpose of the paper.
Results	Data collection and assessment results are very clear and logical, strongly supporting the goals of the paper.	Data collection and assessment results are clear and logical, supporting the goals of the paper.	Data collection and assessment results are somewhat clear and logical, moderately supporting the goals of the paper.	Data collection and assessment results need improvement
Scholarship (Literature Review)	Content reviews and builds on appropriate prior work to a significant extent.	Content reviews and builds on appropriate prior work to a moderate extent.	Content reviews and builds on appropriate prior work to a limited extent.	Content does not review and build on appropriate prior work.
Relevance	The paper makes a highly significant contribution to the field of engineering education. **The paper will interest the majority of DEED members and is applicable to the DEED mission.**	The paper makes a significant contribution to the field of engineering education. **The paper will interest the majority of DEED members and is applicable to the DEED mission.**	The paper makes a moderate contribution to the field of engineering education. **The paper will interest the majority of DEED members and is applicable to the DEED mission.**	The paper makes a minimal contribution to the field of engineering education. **The paper will interest the majority of DEED members and is applicable to the DEED mission.**
Goals	The goals are strongly developed and explicitly stated.	The goals are developed and explicitly stated.	The goals are not fully developed and/or stated.	The goals are not developed and/or stated.
Order	The order in which ideas are presented is explicitly and consistently clear, logical, and effective.	The order in which ideas are presented is reasonably clear, logical, and effective, but could be improved.	The order in which ideas are presented is occasionally confusing.	There is little apparent structure to the flow of ideas, causing confusion.

Conclusions	The conclusions are very well formulated and are strongly supported by the data.	The conclusions are well formulated and are supported by the data.	The conclusions are moderately effective and are only partially supported by the data.	The conclusions are minimally effective and do not appear to be supported by the data.
Style	The paper is clear, concise, and consistent. It is easily understandable and a pleasure to read.	The paper is mostly understandable, with occasional inconsistencies that could be improved.	Multiple sections of the paper are difficult to read/understand. The paper could be better structured or more clearly explained.	The paper is difficult to read/understand due to sentence/paragraph structure, word choices, lack of explanations, etc.
Mechanics	The writing is near perfect with little to no grammar or spelling errors.	Minor grammar or spelling errors are present but do not detract from the content. The content is clear.	Some grammar or spelling errors are significant and detract from the content. Paper requires further editing.	Pervasive grammar or spelling errors distort meaning and make reading difficult.

This rubric has been updated August 2023 and was originally designed by the PCEE division to align with the ASEE best paper rubric.

DEED "Survey/Literature Review" Papers

Total maximum points = 30 (3 x 10 categories)

Category /Points	3 - Excellent	2 - Good	1 - Satisfactory	0 - Needs Improvement
Originality (Contribution)	Content contains a highly original treatment of, or a new perspective on, the topic.	Content contains some original treatment of, or a new perspective on, the topic.	Content contains a moderately original treatment of, or a new perspective on, the topic.	Content contains a minimal original treatment of, or a new perspective on, the topic
Research Approach	The research approach is novel and/or sophisticated and appropriate for the purpose of the paper and is consistent with the perspective (quantitative, qualitative, mixed, or more specific).	The research approach is advanced and appropriate for the purpose of the paper and is consistent with the perspective (quantitative, qualitative, mixed, or more specific).	The research approach is basic, but still appropriate for the purpose of the paper, and is consistent with the perspective (quantitative, qualitative, mixed, or more specific).	The research approach is inadequate and/or not appropriate for the purpose of the paper.
Scholarship (Literature Review)	Content reviews and builds on appropriate prior work to a significant extent.	Content reviews and builds on appropriate prior work to a moderate extent.	Content reviews and builds on appropriate prior work to a limited extent.	Content does not review and build on appropriate prior work.
Synthesis	Synthesis integrates and summarizes key insights or gaps in prior work to reveal significant new understanding	Synthesis integrates and summarizes key insights or gaps in prior work to reveal moderate new understanding	Synthesis integrates and summarizes key insights or gaps in prior work to reveal limited new understanding	Synthesis of target research is absent
Relevance	The paper makes a highly significant contribution to the field of engineering education. **The paper will interest the majority of DEED members and is applicable to the DEED mission.**	The paper makes a significant contribution to the field of engineering education. **The paper will interest the majority of DEED members and is applicable to the DEED mission.**	The paper makes a moderate contribution to the field of engineering education. **The paper will interest the majority of DEED members and is applicable to the DEED mission.**	The paper makes a minimal contribution to the field of engineering education. **The paper will interest the majority of DEED members and is applicable to the DEED mission.**
Goals	The goals are strongly developed and explicitly stated.	The goals are developed and explicitly stated.	The goals are not fully developed and/or stated.	The goals are not developed and/or stated.
Order	The order in which ideas are presented is explicitly and consistently clear, logical, and effective.	The order in which ideas are presented is reasonably clear, logical, and effective, but could be improved.	The order in which ideas are presented is occasionally confusing.	There is little apparent structure to the flow of ideas, causing confusion.

Conclusions	The conclusions are very well formulated and are strongly supported by the data.	The conclusions are well formulated and are supported by the data.	The conclusions are moderately effective and are only partially supported by the data.	The conclusions are minimally effective and do not appear to be supported by the data.
Style	The paper is clear, concise, and consistent. It is easily understandable and a pleasure to read.	The paper is mostly understandable, with occasional inconsistencies that could be improved.	Multiple sections of the paper are difficult to read/understand. The paper could be better structured or more clearly explained.	The paper is difficult to read/understand due to sentence/paragraph structure, word choices, lack of explanations, etc.
Mechanics	The writing is near perfect with little to no grammar or spelling errors.	Minor grammar or spelling errors are present but do not detract from the content. The content is clear.	Some grammar or spelling errors are significant and detract from the content. Paper requires further editing.	Pervasive grammar or spelling errors distort meaning and make reading difficult.

DEED "Design Methodology Papers"

Total maximum points = 30 (3 x 10 categories)

Category /Points	3 - Excellent	2 - Good	1 - Satisfactory	0 - Needs Improvement
Originality (Contribution)	Content contains a highly original treatment of, or a new perspective on, the topic.	Content contains some original treatment of, or a new perspective on, the topic.	Content contains a moderately original treatment of, or a new perspective on, the topic.	Content contains a minimal original treatment of, or a new perspective on, the topic
Design Methodology	The Design Methodology is novel and/or sophisticated and appropriate for the application in design based teaching.	The Design Methodology is advanced and/or sophisticated and appropriate for the application in design based teaching.	The Design Methodology is basic, but still appropriate for the application in design based teaching.	The Design Methodology is inadequate and/or not appropriate for the application in design based teaching.
Technique & Tool Description	Techniques and tools are very clear, logically explained and demonstrated. Readers are able to take the method and apply to their own course.	Techniques and tools are clear, logically explained and demonstrated. Readers are mostly able to take the method and apply to their own course.	Techniques and tools are somewhat clear, but may not be logically explained and demonstrated. Readers may be able to take the method and apply to their own course with significant additional work.	Techniques and tools are not clear, not logically explained and demonstrated. Readers are not able to take the method and apply to their own course.
Scholarship (Literature Review)	Content reviews and builds on appropriate prior work to a significant extent.	Content reviews and builds on appropriate prior work to a moderate extent.	Content reviews and builds on appropriate prior work to a limited extent.	Content does not review and build on appropriate prior work.
Background and Need	The background and need is very clearly articulated leaving the reader fully understanding the need and purpose of the methodology. Need is strongly backed up with data.	The background and need is clearly articulated leaving the reader with a good understanding of the need and purpose of the methodology. Need is backed up with data.	The background and need is somewhat articulated leaving the reader with some understanding of the need and purpose of the methodology. Need includes minimal data.	The background and need is poorly articulated leaving the reader with little understanding of the need and purpose of the methodology. Need does not include any data.
Relevance	The paper makes a highly significant contribution to the field of engineering education. **The paper will interest the majority of DEED members and is applicable to the DEED mission.**	The paper makes a significant contribution to the field of engineering education. **The paper will interest the majority of DEED members and is applicable to the DEED mission.**	The paper makes a moderate contribution to the field of engineering education. **The paper will interest the majority of DEED members and is applicable to the DEED mission.**	The paper makes a minimal contribution to the field of engineering education. **The paper will interest the majority of DEED members and is applicable to the DEED mission.**

Order	The order in which ideas are presented is explicitly and consistently clear, logical, and effective.	The order in which ideas are presented is reasonably clear, logical, and effective, but could be improved.	The order in which ideas are presented is occasionally confusing.	There is little apparent structure to the flow of ideas, causing confusion.
Conclusions	The conclusions are very well formulated and are strongly supported by the data.	The conclusions are well formulated and are supported by the data.	The conclusions are moderately effective and are only partially supported by the data.	The conclusions are minimally effective and do not appear to be supported by the data.
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