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**ABSTRACT**

This section of the paper should be a **single paragraph abstract** outlining the aims, scope and conclusion of the paper. While no word limit is imposed, authors should aim for an abstract length of about **300 words** for full papers or about 50 words for shorter contributions.

**KEYWORDS**

Suggest approximately 4 - 6 keywords, separated by commas. The last keyword **must** be “Standards” and include a numerical list of the particularly relevant CDIO Standards, e.g., Standards: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

**FORMATTING YOUR PAPER**

Use a one-column format with left and right justification. Set the page size to 210 x 280 mm or 8 ¼ x 11 inch so that printed copies will fit comfortably on both A4 and US Letter sizes. Always use portrait page layout. If you want to include e.g. a large table, rotate it 90 degrees so it will fit on a portrait page. Set all the margins at 25 mm (1 inch) and set the footer to start 13 mm (½ inch) from the bottom of the page. Leave the gutter at 0 mm. (In Word you can use the Page Setup settings under Format/Document or the Page Layout tab to create a custom Paper Size and set the user-defined non-printable margins to make sure the footer appears in the resulting PDF. Or simply use this template file. When creating the PDF from older versions of Word, you may need to use the File/Print Menu to save to PDF, as the File/Save to PDF option cuts off the footer in some cases.)

Use single space, Arial, 11 pt. Do not include page numbers, footnotes, or headers.

Use this footer format in Arial, 9 pt., italic, as shown at the bottom of the pages in this document:

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**Papers are at most 10 pages. Longer manuscripts can also be considered when appropriate; however, the authors are encouraged to write concisely, and the length of the paper must be justified by the substance of the contribution.**

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Section headings (including **ABSTRACT** and **KEYWORDS**) are to be in bold and uppercase letters in Arial 11 pt. Leave one blank line between the heading and the first line of text. There must be two blank lines before each section heading, or more if necessary to move to the next page without producing “widow lines”.

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If you use Word’s caption feature, numbered list or other automatically numbered elements, you MUST convert them to plain text for the final submission. This is to avoid runaway numbers when the papers are combined into the proceedings.

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Leave one blank line above and below any equation. Equations are to be centered and the equation reference right justified. Each equation should be numbered consecutively throughout the paper using Arabic numbers in parentheses. Equation references should be referred to in the text in the form Eqn (1).

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There is a degree of flexibility concerning tables. You may choose how you wish to format the rows and columns. However, please be consistent throughout your paper. The table reference and heading should appear above the table as shown below. Use 11 pt. upper and lower case letters for the title. Tables are to be centered on the page. Leave one blank line before the table heading and one blank line after the table (unless followed by a main section heading).

Table 1. Teacher Gender and Grade Level

|  |  |  |  |
| --- | --- | --- | --- |
|  | Male | Female | Total |
| Elementary | 40 | 60 | 100 |
| Junior High | 60 | 40 | 100 |
| High School  | 70 | 30 | 100 |

***Figures***

Figures must be centered with the reference and caption printed below the figure.

All figures must be quoted in the text. Use Arial 11 pt. upper and lower case letters for the figure legend. For example, see Figure 1 for a graph showing the distribution of Male Teachers by Grade Level from Table 1.

If photographs or images are included, high-quality originals should be used. Figures should appear as close to their first citation in the text as possible with consideration for a smooth layout.



Figure 1. Entire caption for figure centered and below the illustration

**THE REFERENCE SECTION**

Use the APA format for all references as shown in the example below. If in doubt about the reference style, consult [www.apastyle.org](http://www.apastyle.org) (American Psychological Association, 2018). When citing a reference in the text, use Author/Date in parentheses (Biggs & Tang, 2011) or (Malmqvist, Huay, Kontio, & Minh, 2012). If it reads better, refer directly to Lantada, et al. (2012) in the text. References should be in Arial, 10 pt. single-spaced and listed in alphabetical order. 3 pt. space between the references. We suggest that you use either a reference tool like endnote (Clarivate, 2018) or the built-in reference system in Word. You can find a tutorial on how to use the built-in reference system in Word at <https://support.office.com/en-us/article/create-a-bibliography-citations-and-references-17686589-4824-4940-9c69-342c289fa2a5> (Microsoft, 2018). References should be made so that other people can find them; include all relevant information when refer to a webpage and the date it was accessed.

**REFERENCES**

American Psychological Association. (2018, November 1). *APA Style*. Retrieved from APA Style Central: https://www.apastyle.org/index

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Microsoft. (2018, November 1). *Create a bibliography, citations, and references*.

**BIOGRAPHICAL INFORMATION**

Include a 1-paragraph biography of the authors. Give the full address, telephone, and email information for the corresponding author. **The authors must grant a Creative Commons version 4.0 license to reproduce the work and include the marking shown below.**

***Angkee Sripagakorn*** is an Associate Professor of Mechanical Engineering, Faculty of Engineering, Chulalongkorn University. His expertise covers alternative energy, energy conversion devices and electromobility. Angkee cofounded the Engineering Education Initiative at the faculty. The collective effort of EEi members led to the formation of the Chula Engineering Education 4.0, the framework to restructure the teaching and learning experience in order to deliver innovation-producing graduates to Thai society and economy. The framework is currently fully adopted by all departments at Chula Engineering.

***Natha Kuptasthien*** is currently as an Assistant to President for International Relations and Associate Professor at the Industrial Engineering department, Faculty of Engineering, Rajamangala University of Technology Thanyaburi (RMUTT). Her current focus is a development of community of pedagogical competent and strengthen CDIO Thailand network. She has served as a CDIO council member-at-large since 2017.

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