DO'S AND DON'TS

According to assignments: "The report should be detailed enough so that a reader, having some background in experiments and engineering models, is able to follow the derivations and repeat the steps". Be careful to include enough information.

Structure, contents

- The report should be detailed enough so that a reader, having some background in experiments and engineering models, is able to follow the derivations and repeat the steps.
- The IMRD structure (https://fi.wikipedia.org/wiki/IMRD-rakenne) *Introduction-material and Methods-Results-Discussion* structure may work in the present study.
- The report should contain a summary, introduction, explanation of the structure and its idealization and parametrization, discussion of all the methods and their results, and conclusions.
- Use division into sections/chapters to improve readability
- Table of contents and nomenclature (the list of physical terms and their meaning) are optional but summary is not.
- Summary should give picture about the contents, aim, and outcomes/conclusions in a concise a qualitative manner (no equations, pictures, numerical values).
- Introduction usually contains some explanation of the context, earlier studies/references (optional here), aim of the report, structure of the reports (optional).
- The aim should be consistent with the assignment and the structure of the report should reflect the aim (somehow)
- The object structure (picture), its idealization and geometrical/material parameters should be explained in its own section before analysis.
- The report should contain tables, figures, equations, and references.
- Explanations of the methods should be such that a reader, having some background in experiments and engineering models, is able to follow the derivations and repeat the steps.
- Include some discussion of modelling error and numerical error effects on results
- Think about the placing of the material carefully, material belonging to introduction should be placed to introduction etc.

Style, formatting

- Although several writers may contribute, try to make the report consistent in style.
- Be consistent with the fonts as well as their styles and sizes
- Avoid bulleted lists and other similar non-standard elements of technical reports
- Divide text into paragraphs to improve clarity. Avoid very short paragraphs.
- Do not use underlining, different fonts etc. formatting without a good reason

Figure, tables and references

- Figures and tables should be understandable even when separated from text.
- Large tables, e.g., for measured (raw) data etc. should be given in an appendix.
- There should be a good reason for using a figure or table (decorative purposes is not enough).
- Do not use colors unless necessary for clarity
- Place all tables and figures and their captions in the same manner (centered, left)
- If the information contents is low, consider giving the same information in text.
- Table captions should be placed above and figure captions below.
- Table and figure captions should describe the contents in a concise manner. Give the detailed explanation in text and refer there to the table or figure.
- All tables and figures should be referenced somewhere in the text
- All sources in the list of refences should be used somewhere in the text

- Do not give the same information in a table and in a figure (give the table in an appendix if you want to keep both)
- Report should use at least one reference
- Use some reference for the parameters (like Young's modulus, Poisson's ratio) unless the values can be taken as "well-known" (like acceleration by gravity)
- Avoid referring forward (like saying that the numerical value is given later in Eq. (n). Instead, when giving the numerical value in Eq. (n), refer backwards to the equation used. Try to arrange the material so that referencing to tables, figures etc. appearing later in text is not needed.
- Font size in tables and figures should allow reading
- Use capital first letter in references like Figure 1, Table 1, Fig. 1, Tab. 1, Equation (1), Eq. (1) etc.

Derivations and equations

- Equations should be considered as parts of sentences (even if positioned on a separate line) and all rules for, e.g., using commas and periods apply.
- Avoid many pages of derivations without any text between the equations
- Define/explain all symbols after (near) their first occurrence in an equation/expression/figure etc.
- Number the equations, (n) flushed right on the same row, and refer to equations by their numbers in parenthesis (n)
- Symbols should be italicized. Units should not be italicized.
- Lengthy and detailed derivations (compared with the generic degree of details of the presentation) should be given in an appendix. Give and explain only the cornerstones of the derivation in text.
- In calculation of value of an expression with the known values of the parameters (given for example in table), do not give the expression with the values substituted there.
- Do not use the concise implication or equivalence (mathematical) notation ($\rightarrow$, $\Rightarrow$, $\Leftrightarrow$, $\Leftarrow$, & etc.) Instead, use "giving" etc. and correctly structured sentences in derivations.
- The source for an equation/mathematical model should be given if the equations cannot be considered as "well-known"
- All expressions should be dimensionally homogeneous. If the values of the physical quantities are substituted in expressions, the dimensions should be included there.

Group A *May not be accepted in the present from: Report is too concise, giving just the results is not enough. The aim is not consistent with the assignment.*

- The aim should be consistent with the assignment and the structure of the report should reflect the aim (somehow)
- Introduction usually contains some explanation of the context, earlier studies/references (optional here), aim of the report, structure of the reports (optional).
- Think about the placing of the material carefully, material belonging to introduction should be placed to introduction etc.
- Symbols should be italicized. Units should not be italicized.
- The report should be detailed enough so that a reader, having some background in experiments and engineering models, is able to follow the derivations and repeat the steps.
- The report should contain tables, figures, equations, and references.
- Explanations of the methods should be such that a reader, having some background in experiments and engineering models, is able to follow the derivations and repeat the steps.

Group B *Likely to be accepted in the present form: The roles of dimension analysis and simplified model are not clear. The aims in the summary and introduction differ, the model used in Abaqus calculation is not explained. Conclusions are not right. Effect of the parameters is not studied.*

- Explanations of the methods should be such that a reader, having some background in experiments and engineering models, is able to follow the derivations and repeat the steps.
- Equations should be considered as parts of sentences (even if positioned on a separate line) and all rules for, e.g., using commas and periods apply.
- Number the equations, (n) flushed right on the same row, and refer to equations by their numbers in parenthesis (n)

Group C *Likely to be accepted in the present form: A very good report already. Diameter denoted by d and D in dimension analysis. Eq. (16) is not complete. Sone text is missing at the end of the report.*

Group D *May not be accepted in the present from: Explanation of the methods is way too concise and the roles of dimension analysis, simplifies analysis etc. are not clear.*

- The report should contain a summary, introduction, explanation of the structure and its idealization and parametrization, discussion of all the methods and their results, and conclusions.
- Summary should give picture about the contents, aim, and outcomes/conclusions in a concise a qualitative manner (no equations, pictures, numerical values).
- Introduction usually contains some explanation of the context, earlier studies/references (optional here), aim of the report, structure of the reports (optional).
- The aim should be consistent with the assignment and the structure of the report should reflect the aim (somehow)
- Think about the placing of the material carefully, material belonging to introduction should be placed to introduction etc.
- Table captions should be placed above and figure captions below.
- Table and figure captions should describe the contents in a concise manner. Give the detailed explanation in text and refer there to the table or figure.
- Symbols should be italicized. Units should not be italicized.
- Number the equations, (n) flushed right on the same row, and refer to equations by their numbers in parenthesis (n)
- Be consistent with the fonts as well as their styles and sizes
- The report should be detailed enough so that a reader, having some background in experiments and engineering models, is able to follow the derivations and repeat the steps.

Group E *Likely to be accepted in the present form: Results are there, but formatting could be improved. Explanation in dimension analysis should be refined. The table of parameters should be placed near "idealization and parametrization"*

- Equations should be considered as parts of sentences (even if positioned on a separate line) and all rules for, e.g., using commas and periods apply.
- Do not use the concise implication or equivalence (mathematical) notation ($\rightarrow$, $\Rightarrow$, $\Leftrightarrow$, $\Leftarrow$, & etc.) Instead, use "giving" etc. and correctly structured sentences in derivations.
- The source for an equation/mathematical model should be given if the equations cannot be considered as "well-known"
- Although several writers may contribute, try to make the report consistent in style.
- Be consistent with the fonts as well as their styles and sizes
- Symbols should be italicized. Units should not be italicized.

Group F *No report.*

Group G *May not be accepted in the present from: Report contains the titles but not much more.*

- Summary should give picture about the contents, aim, and outcomes/conclusions in a concise a qualitative manner (no equations, pictures, numerical values).
- Introduction usually contains some explanation of the context, earlier studies/references (optional here), aim of the report, structure of the reports (optional).
- The report should be detailed enough so that a reader, having some background in experiments and engineering models, is able to follow the derivations and repeat the steps.

Group H *Likely to be accepted in the present form: Results are there. The structure of introduction could be clarified (see below). Formatting could be improved.*

- Introduction usually contains some explanation of the context, earlier studies/references (optional here), aim of the report, structure of the reports (optional).
- Symbols should be italicized. Units should not be italicized.
- Number the equations, (n) flushed right on the same row, and refer to equations by their numbers in parenthesis (n)

Group I *Likely to be accepted in the present form*: *Results are there and structure is good***.** *The aim should clear in introduction. Some typos. The roles of dimension analysis and simplified method are not clear. In conclusion, comparison of the results using a table would be more clear.*

- Introduction usually contains some explanation of the context, earlier studies/references (optional here), aim of the report, structure of the reports (optional).
- Avoid bulleted lists as non-standard elements of technical reports
- The source for an equation/mathematical model should be given if the equations cannot be considered as "well-known"

Group J *Likely to be accepted in the present form: Results are there, but explanation of methods is too concise. The roles of dimension analysis and simplified method are not clear. Explanation of the simplified method is missing.*

- The aim should be consistent with the assignment and the structure of the report should reflect the aim (somehow)

- The object structure (picture), its idealization and geometrical/material parameters should be explained in its own section before analysis.
- Be consistent with the fonts as well as their styles and sizes
- Explanations of the methods should be such that a reader, having some background in experiments and engineering models, is able to follow the derivations and repeat the steps.
- Table captions should be placed above and figure captions below.

Group K *No report.*

Group L *May not be accepted in the present from: Idealization and parametrization should be explained before methods. Experimental results is explained under title "analytical results". Place the Mathematica code in an appendix. Dimension analysis and simplified analysis are not considered.*

- The aim should be consistent with the assignment and the structure of the report should reflect the aim (somehow)
- The object structure (picture), its idealization and geometrical/material parameters should be explained in its own section before analysis.
- Think about the placing of the material carefully, material belonging to introduction should be placed to introduction etc.
- Be consistent with the fonts as well as their styles and sizes

Group M *May not be accepted in the present from: The aim should be clear in summary. Do not combine the structure idealization and parameter table into the same figure (separate figure and table is better). Join one of the modelling ours to get help with the Mathematica FEM calculations..*

- The aim should be consistent with the assignment and the structure of the report should reflect the aim (somehow)
- Be consistent with the fonts as well as their styles and sizes
- Think about the placing of the material carefully, material belonging to introduction should be placed to introduction etc.
- The report should be detailed enough so that a reader, having some background in experiments and engineering models, is able to follow the derivations and repeat the steps.

Group N *Likely to be accepted in the present form: All results are there (good). The role of the second moment of area is not clear. Pi-groups are not explained nor dimension analysis. Formatting could be improved.*

- Think about the placing of the material carefully, material belonging to introduction should be placed to introduction etc.
- Be consistent with the fonts as well as their styles and sizes
- Number the equations, (n) flushed right on the same row, and refer to equations by their numbers in parenthesis (n)
- Do not use the concise implication or equivalence (mathematical) notation ($\rightarrow$, $\Rightarrow$,$\Leftrightarrow$,$\Leftarrow$, & etc.) Instead, use "giving" etc. and correctly structured sentences in derivations.
- Equations should be considered as parts of sentences (even if positioned on a separate line) and all rules for, e.g., using commas and periods apply.

Group P *Likely to be accepted in the present form: Results are there with nice formatting. Dimension analysis not included and effect of parameters not discussed.*

- Table captions should be placed above and figure captions below.
- Symbols should be italicized. Units should not be italicized.
- Be consistent with the fonts as well as their styles and sizes

Group T *May not be accepted in the present from: The aim is not clear from introduction. First non-zero mode in analytical solution corresponds to i=2. Dimension analysis could be presented in its own section. Design formula is used but not explained. The way to get the numerical solution is not clear.*

- Introduction usually contains some explanation of the context, earlier studies/references (optional here), aim of the report, structure of the reports (optional).
- Be consistent with the fonts as well as their styles and sizes
- Avoid bulleted lists and other similar non-standard elements of technical reports
- Think about the placing of the material carefully, material belonging to introduction should be placed to introduction etc.
- The report should be detailed enough so that a reader, having some background in experiments and engineering models, is able to follow the derivations and repeat the steps.