

General guidelines

General remarks

The practical work must be performed by group of **five** or **four** (only if necessary).

The objective of this work is to modelize a mechanical problem in linear elasticity and with small strains, to acquire a critical look on the results obtained thanks to a finite element software and to perform an optimization process based with the help of the finite element analysis.

Therefore, the evaluation of the report is based on:

- The followed methodology to realize the objectives of the study.
- The interpretation and the analysis of the results obtained with the NX software.
- The quality of the written report.

Important dates

- Friday 1st April 2018 before 20:00: submission of the temporary NX data set files and the temporary documents on the first attempt at solving the problem with mechanics of materials.
- Thursday 26th April 2018 before 14:00: submission of the final report, all the NX data set files and the workload balance sheet.

Modalities

- Written report:
 - A written and bound copy of the report must be submitted to Cédric Laruelle the 26th of April 2018 before 14:00.
 - The pdf file of the report must be contained in a .rar file (the name of the pdf file is FEM_REPORT_Family name of each group member in capital letters separated by an "underscore"_) that must be uploaded on the eCampus platform or sent by email to the adress cedric.laruelle@uliege.be (**only if there is a problem with eCampus**) on the date of submission of the final report.

- Final NX data set files:
 - The NX data set files must be included in the same .rar file as the report (the name of the .rar file is FEM_Family name of each group member in capital letters separated by an "underscore" _).
 - The .rar file must be organized as shown in Figure 1 for clarity. For each element, a folder must exist, containing three sub-folders, one for each type of mesh (coarse, simple and advanced). The NX data set files must be included in these subfolders. For the optimization part, a folder must exist, containing three sub-folders, one for each trial.

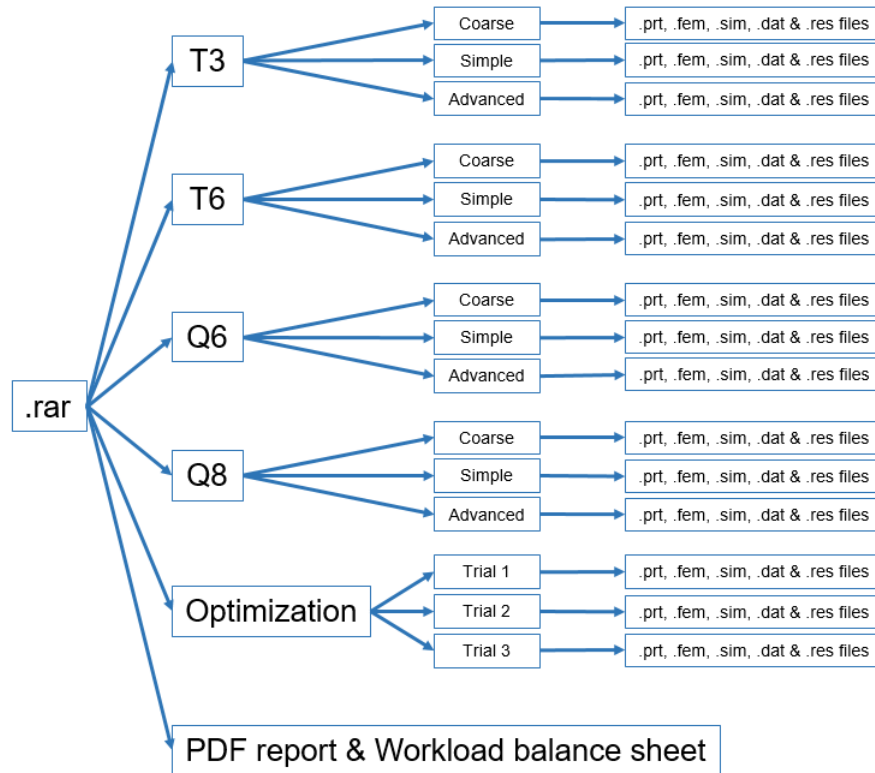


Figure 1: Structure of the .rar file.

- Temporary NX data set files:
 - The temporary NX data set files must be included in a .rar file (the name of the .rar file is NX_TEMP_DATA_SET_Family name of each group member

in capital letters separated by an "underscore"_) that must be uploaded on the eCampus platform or sent by email to the adress cedric.laruelle@uliege.be (**only if there is a problem with eCampus**) on the date of submission of the temporary data.

- In this .rar file, you must include the .dat, .fem, .sim, .dat & .res files of your attempt at solving the problem with NX for at least one type of element.
- Temporary documents on the analysis with mechanics of materials:
 - The temporary documents on the analysis with mechanics of materials must be included in a .rar file (the name of the file is MOM_TEMP_DATA_SET_Family name of each group member in capital letters separated by an "underscore"_) that must be uploaded on the eCampus platform or sent by email to the adress cedric.laruelle@uliege.be (only if there is a problem with eCampus) on the date of submission of the temporary data.
 - In this .rar file, you must include a first attempt at solving your problem with mechanics of materials. The documents can be a simple draft (numerized handwritten sheet).
- Workload balance sheet:
 - The pdf file of the workload balance between the different members of the group must be uploaded in the same .rar file as the final report and the NX data set files (the name of the pdf file is FEM_WORKLOAD_Family name of each group member in capital letters separated by an "underscore"_) that must be uploaded on the eCampus platform or sent by email to the adress cedric.laruelle@uliege.be (only if there is a problem with eCampus) on the date of submission of the final report.
 - In this file, you must indicate all the sections of the report of which you are the author or co-author and every part of the project to which you have contributed. (Brief explanation of the performed tasks). **This file must be signed by every member of the group with the date and the mention "Read and approved"**

Sanction(s)

- The absence of the temporary NX data set files and temporary documents on the analysis with mechanics of materials before the 1st of April 2018 before 20:00 will lead to a mark of 0/20 for every member of the group, regardless of the files/documents received before the 26th of April 2018.

- Plagiarism of the written report, temporary documents and NX data set files, and final NX data set files will lead to a penalty of, at least, a mark of 0/20 for every member of the group ¹
- Failure to follow the guidelines in the statement file of each project, on the project instruction file, on the report instruction file and on the project presentation file can be penalized (from 0.5 to 2 points per infringement committed).
- **If the Workload balance sheet is not signed, each member of the group will be given a mark of 0/20 for the project, regardless the quality of the project and the files provided.**

¹For your information, every report of the past years have been uploaded in the anti-plagiarism software from ULiège. Therefore, every report of this academic year will be automatically compared between each other and with the reports of the previous years.