

Scientific writing - Form

Exercise 1 : editing and page layout

1. Objectives

- Turn plain text into formatted and structured text
- Understand how tags/styles work in editing software/markup language

2. Instructions

- Open the plain text file from Moodle with Notepad++, WordPad or equivalent text editor
- Read the text
- Format the text with your favorite editor:
 - Markdown : use collaborative [HedgeDoc](#) server of INSA
 - Microsoft Word / Libre Office Writer
 - LaTeX : use Overleaf template "*Écrire du texte*" available [on Moodle](#)
- Rebuild the paragraphs and apply relevant style to titles

Tip

Help can be found (in French) on the pages [Balises typographiques](#) et [La mise en page](#) du site Rédaction Scientifique. You can also read the [FAQ LaTeX GUTenberg](#).

Exercise 2 : equations

1. Objectives

- Write an equation with **code** (keyboard, ~~mouse~~)
- Properly introduce variables with sentences, before or after the equation (using "where" or "with" keywords)

2. Instructions

- For each example below:
 - Make a list of mistakes
 - Rewrite the equations in your favorite editor
 - Word : use the equation editor (Ctrl + Alt + =) and type **code**
 - Libre Office Writer : download [TexMaths](#) extension
 - Markdown : use collaborative [HedgeDoc](#) server of INSA
 - LaTeX : use Overleaf template "*Écrire des équations*" available [sur Moodle](#)

2.1. Example 1

de poisson à partir du coefficient directeur de la droite via la relation : $\epsilon_T = -\nu \times \epsilon_L$
Il est également possible de déterminer le module de Young grâce à la formule suivante :

$$\sigma_L = E \times \epsilon_L$$

2.2. Example 2

La charge maximale applicable est :

$$F_{\text{max elastique acier}} = Rel_{\text{acier}} \times S$$
$$F_{\text{max elastique acier}} = 200 * 24.33 * 2.96 = 14403 \text{ l}$$

3. Help

3.1. Equation template

Below is a reference example of well-written equations where the variables are correctly defined.

The heat transfer equation reads:

$$\rho c_p \frac{\partial \theta}{\partial t} = -\text{div}(\vec{q}) + r \quad , \tag{1}$$

where ρ is the material's density, c_p the specific heat, θ the temperature, $\vec{q}$ the flux vector, and r the heat source.

When the problem is stationary, equation (1) simplifies to:

$$-\text{div}(\vec{q}) + r = 0 \quad . \tag{2}$$

3.2. Variable names in the examples

Here is the list of variables to help you:

Variable	Name
ϵ_T	transverse strain
ϵ_L	longitudinal strain
ν	Poisson's coefficient
σ_L	longitudinal stress
E	Young's modulus
$F_{\text{max elastiqueacier}}$	Maximum applied load
Rel_{acier}	Steel yield stress

Variable	Name
S	Initial cross-sectional area of the sample

3.3. Writing equations

Tip

Help can be found (in french) on page [Écrire des équations](#) of *Rédaction Scientifique* website (rs-docs) or the French LaTeX help [FAQ LaTeX GUTenberg](#).

You will also need to know how to write units and numbers: see page [Écrire les nombres et les unités](#) of *Rédaction Scientifique* website (rs-docs).