

# elsearticle class for Typst

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MIT

Typst template for Elsevier article submissions

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`elsearticle` is a Typst template that aims to mimic the Elsevier article L<sup>A</sup>T<sub>E</sub>X class, a.k.a. `elsarticle.cls`, provided by Elsevier to format manuscript properly for submission to their journals.

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# Part I

## About

`Elsearticle` is a Typst template that aims to mimic the Elsevier article L<sup>A</sup>T<sub>E</sub>X class, a.k.a. `elsarticle.cls`, provided by Elsevier to format manuscript properly for submission to their journals.

`elsearticle` is designed to be as close as possible to the original class, whose specification can be found in the [documentation](#)<sup>1</sup>. The template is still in development and may not be fully compatible with all Elsevier journals.

This manual provides an overview of the features of the `elsearticle` template and how to use it.

To mimic the look and feel of the original `elsarticle.cls`, the following fonts must be used:

- XITS<sup>2</sup> and XITS Math for the best compatibility with the original `elsarticle.cls`;
- STIX Two Text<sup>3</sup> and STIX Two Math as a reasonable alternative;
- New Computer Modern and New Computer Modern Math are also defined to avoid compilation errors if the previous fonts are not available.

The template is provided as is by the Typst community and is not affiliated with Elsevier.

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<sup>1</sup><http://assets.ctfassets.net/o78em1y1w4i4/3ro3yQff1q67JHmLi1sAqV/1348e3852f277867230fc4b84a801734/elsdoc-1.pdf>

<sup>2</sup><https://www.ctan.org/pkg/xits>

<sup>3</sup><https://github.com/stipub/stixfonts>

# Part II

## Usage

### II.1 Using elsearticle

To use the `elsearticle` template, you need to include the following line at the beginning of your typ file:

```
#import "@preview/elsearticle:2.0.0": *
```

### II.2 Initializing the template

After importing `elsearticle`, you have to initialize the template by a show rule with the `#elsearticle` command. This function takes an optional argument to specify the title of the document.

```
#show: elsearticle.with(  
    ...  
)
```

`#elsearticle` takes the following arguments:

```
#elsearticle(  
    {title}: none,  
    {authors}: (),  
    {institutions}: (),  
    {abstract}: none,  
    {journal}: none,  
    {keywords}: (),  
    {format}: "preprint",  
    {numcol}: 1,  
    {line-numbering}: false  
) [body]
```

— Argument —

`(title): none`

str

Title of the paper

— Argument —

`(authors): ()`

array

Array containing the list of authors of the article. Each author is defined as a dictionary with the following keys:

- **name:** Name of the author (required) `str | content`
- **institutions:** List of institutions of the author (required) `array`
- **corresponding:** Corresponding author (optional, default: false) `bool`
- **email:** Email of the corresponding author (optional) `str | content`

```
authors: (
  (
    name: "J. Doe",
    institutions: ("a", "b"),
    corresponding: true,
    email: "jdoe@univ.edu",
  ),
  (
    name: "J. Smith",
    institutions: ("b",),
  ),
)
```

Argument –

`(institutions): ()` `dictionary`

Dictionary containing the list of institutions of the article. Each institution is defined as a key-value pair, where the key is a `str` representing the institution ID and the value is a `str | content` giving the name and the address of the institution.

```
institutions: (
  "a": [Institution A, City A, Country A],
  "b": [Institution B, City B, Country B],
)
```

If the paper has only one author, `institutions` must be:

- `("",)` in the `authors array` of `dictionary`
- `("": [Institution name])` in the `institutions dictionary`

to conform with the Elsevier template requirements.

Argument –

`(abstract): none` `content`

Abstract of the paper

— Argument —

`(journal): none`

`str`

Name of the journal

— Argument —

`(keywords): ()`

`array`

List of the keywords of the paper

Each element of the `array` is a `str` representing a keyword

`keywords: ("Keyword 1", "Keyword 2")`

— Argument —

`(format): "review"`

`str`

Format of the paper. Possible values are “preprint”, “review”, “1p”, “3p” and “5p”

— Argument —

`(numcol): 1`

`number`

Number of columns of the paper. Possible values are 1 and 2

According to the documentation of `elsearticle.cls` (see [here](#)<sup>4</sup>), the number of columns is related to the format of the paper:

- 1p: Single column only
- 3p: Single or double column possible
- 5p: Double column only

To avoid unexpected behaviors, the value of the `numcol` argument is set to 1 by default and restricted to 1 or 2.

— Argument —

`(line-numbering): false`

`bool`

Enable line numbering in the document

## II.3 Additional features

The `elsearticle` template provides additional features to help you format your document properly.

### II.3.1 Appendix

The template allows you to create appendices using the `#appendix` environment. The appendices are then numbered with capital letters (A, B, C, etc.). Figures, tables and equations are numbered accordingly, e.g. Eq. (A.1).

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<sup>4</sup><https://assets.ctfassets.net/o78em1y1w4i4/3ro3yQff1q67JHmLi1sAqV/1348e3852f277867230fc4b84a801734/elsdoc-1.pdf>

To activate the appendix environment, all you have to do is to place the following command in your document:

```
#show: appendix

// Appendix content here
```

### II.3.2 Subfigures

Subfigures are not built-in features of Typst, but the `elsearticle` template provides a way to handle them. It is based on the `subpar` package that allows you to create subfigures and properly reference them.

To create a subfigure, you can use the following syntax:

```
#subfigure(
    figure(image("image1.png"), caption: []),
    figure(image("image2.png"), caption: []),
    columns: (lfr, lfr),
    caption: [(a) Left image and (b) Right image],
    label: <fig>
)
```

The `#subfigure` function is a wrapper around the `#subpar.grid` function. The numbering is adapted to the context of the document (normal section or appendix).

### II.3.3 Equations

The equations are numbered with the format “(1)”, “(2)” in normal sections and with the format “(A.1)”, “(A.2)” in appendices. In addition to these numbering patterns, the `elsearticle` template provides the `#nonumeq` to create unnumbered equations. The latter function can be used as follows:

```
#nonumeq[$
y = f(x)
$]
```

# Part III

## Roadmap

The `elsearticle` template is still in development. Here are some of the features that are currently implemented or planned for future releases:

### Article format

- Preprint
- Review
- 1p
- 3p
- 5p

### Environment

- Implementation of the `appendix` environment

### Figures and tables

- Implementation of the `subfigure` environment
- Proper referencing of figure, subfigures and tables w.r.t. the context

### Equations

- Proper referencing of equations w.r.t. the context
- Use of the `equatex` package to number each equation of a system as “(1a)”

### Other features

- Line numbering - Use the built-in `par.line` function available from Typst v0.12