Chapter 1

Chapter title

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[1] Affiliation 1; [2] Affiiliation 2; and so on

Abstract [This is the abstract. It will appear in the single-chapter preprint version, but not in the typeset book]

Keywords: [Keyword 1, keyword 2, and so on]

Contributions: [This chapter was planned and outlined by .., with the help of .., and was reviewed by ...]

Citation: [M. Köbis, W. Liebermeister, E. Noor] [Chapter title]

Dear authors, this is the template file that you can use to write your chapter. To get you started, we added some guidelines, recommendations, and examples. Please remove them and insert your text below, following the outline in your chapter draft. General instructions for writing your chapter can be found in this Google doc. For consistency within the book, we agreed upon certain LaTeX conventions and defined a number of LaTeX macros, which we ask you to use. An overview of macros and use-cases, and instructions for using the central git repository, is given in the `LATEX_INSTRUCTIONS` folder in book-manuscript/latex/chapters/. If you have any questions, please have a look at this document first, before contacting us.

Chapter highlights

Please begin your chapter with a short overview of the main points and "lessons to be learned". Use the *chapter highlights* section to give the reader a guide to the chapter, and as a quick reference for readers to find the place where something is discussed. For now, this will only consist of a bullet list.[a] Here we use this list for some extra information.

- This template serves as a starting point for chapter editors/authors. To write your chapter, please follow the outline in your chapter draft (google doc). As your chapter develops, please also update your chapter draft to inform the authors of other chapters.
- It provides a general structure and some examples on the use of figures and references. Normally and initially, each chapter is set up as a copy of this file (in the central repository or the chapter overleaf).
- The central places for questions concerning the content/material of the book are your chapter draft (GoogleDocs page) and/or our SLACK channel.
- If you refer to models, data or code, then make them available online if possible.
- Please use American English.
- Please note: we plan to publish the book under the Creative Commons BY-SA license.
- In case of questions (or recommendations about this template file), please contact Markus or Wolf.

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[a]We might replace these later on by a graphical abstract or an overview page; this is still subject to debate. Note also that footnotes are allowed but to be used sparsely.

1.1   Introduction section

> Please use lower case for section titles

Every chapter should start either with a biology question or with an economic analogy, which then leads to the specific topic of the chapter (e.g. a modeling formalism). Note that your first section need not be called "Introduction".

1.2   Another section ..

In your chapter, please follow the outline in your chapter draft (Google doc linked in this overview Google doc). If you change the chapter structure during writing, please also update the chapter draft (information for other authors).

In its first version, a chapter should have between 10 and 15 pages. In the final version, each chapter should contain material for one class and exercises that go with that class.

References (to subsections, figures, etc) within your chapter work like this, see Section 1.1.

References (to subsections, figures, etc) to other chapters work like this, see Chapter *PAR* or see Section *PAR : Sec : Introduction*. The reference will look ugly in overleaf, but it works fine when the book is complied.

When referring to a figure, table, section, or chapter, please use uppercase, for example Figure 1, Table 1, Section 1, Chapter 1

For bibliography references, use the `citep` or the `citeauthor` command. The results look like this: Einstein laid the foundation for general relativity while the other sources [2, 3] describe standard

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Philosophical remarks 1.A: Egg or Hen?

Egg was first, I guess. (A "Philosophical Remarks" box can be used to critically discuss basic notions and assumptions.)
Note that this is a floating box, latex will try to put it on one page. Do not use the float option for large boxes (which do not fit on one page!)

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references in typesetting and evolution.

Bibtex labels must have the form WatsonCrick1953 (= first author last name + second author last name + year). In case of ambiguity, you can add a, b, c, etc. Whenever possible, include DOI's to your bibtex entries (in the bibtex entry field "DOI"). The DOI field should contain only the DOI, not the full URL (only in exceptional cases, if no DOI is available, put an URL)

To define entries for the book index, use the latex index command that you can see in this sentence. Index entries should be written in lower case, unless they are proper names.

Note that, for example, `\usepackage{todonotes}` was included into the `macros-chapter.tex` of this TEMPLATE chapter. Alternatively, you can also use the latex command \comment to highlight text in red.

> You can add notes. That might be handy during writing.

Economic analogy 1.A

---
title=My economics box If suitable, use boxes with economic analogies (either an intuitive example from economics, or referring to actual economic theory). In your manuscript, please use this `Ecoblock` environment.

Experimental methods 1.A

(An "Experimental method" box can be used to describe .. guess what.)

Experimental methods 1.B: Metabolomics

Look, how the counters change(!), compared to Experimental method-box 1.2.

Experimental methods

The boxes with an asterisk do not get numbered.

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title=My general box And of course, anything else that should be in a box should be in a box.

1.2.1 .. and a subsection

.. but do not use subsubsections please.

1.3 Last section

At the end of the chapter, please come back to the biological questions (or economic analogy) from the beginning of the chapter and discuss whether/to what extent they have been answered.
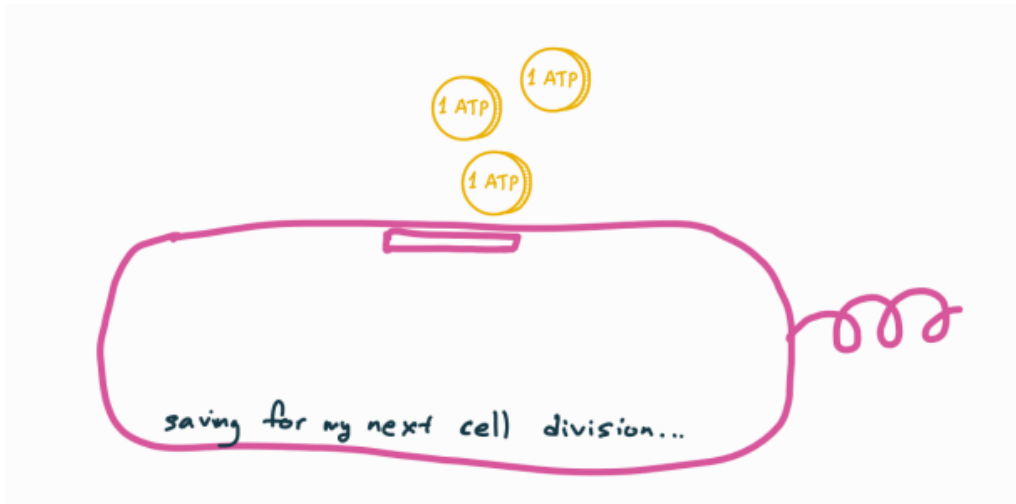
Figure 1.1: Figures can be included using the `figure` environment. Note that external files are included using the `chapterroot` macro. For the first versions, hand-drawn figures are enough. Please scale figures such that they span, horizontally, either a full page (0.9 textwidth) or half a page (0.45 textwidth). Important: make sure that your figures do not contain any copyrighted material, incompatible with our Creative Commons BY-SA license!

That way, we can show whether systems biology is actually useful for answering relevant biological questions.

If you would like to add an appendix, please put it in an extra file called "appendix.tex".

Recommended readings

Please provide a list of recommended readings (just write the full references as a list, not using bibtex). Possibly, add little comments on why (or for what) this reading is useful.

Problems

If your chapter does not contain problems, this section can be omitted. If your exercises make use of code or files on the internet, please put the files online and provide a link here. For problems typeset within the chapter, you can use the `exercise` environment.

If you would like to provide solutions, please put them in an extra file called "solutions.tex".

Problem 1.1 Try using the `exercise` environment and referring back to it in the main text. Hint: you can use the `ref` command.

Bibliography

[1] Albert Einstein. Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]. *Annalen der Physik*, 322(10):891–921, 1905. doi: 10.1002/andp.19053221004.

[2] Michel Goossens, Frank Mittelbach, and Alexander Samarin. *The LATEX Companion*. Addison-Wesley, Reading, Massachusetts, 1993.

[3] Charles Darwin. *The Origin of Species*. Cambridge University Press, 6 edition, 2009. doi: 10.1017/cbo9780511694295.