

Instructions for assignment II (Scientific papers)

In assignment II, you will be given a real example of research data from a scientific article. You will reflect your learnings from the course to understand, report, and evaluate the experimental procedures that were used, as well as the data produced. The assignment involves a peer-review round, after which you will submit the final version.

The main goals of the assignment are:

1. To learn how to read scientific articles and how to evaluate scientific data.
2. To get topical real-life examples of the topics covered during the course.
3. To practice giving constructive feedback.
4. To learn by self-reflection based on the feedback received and given.

You can choose the article that you find most interesting from a list. You can find the list of articles together with short descriptions and information on the figures to be analyzed posted to the MyCourses page of the course after the third lecture. The selected articles are covering research topics relevant for cell biology and the parts you are to evaluate in the assignment are related to the topics covered during the course. There is a link to each article in the list and you should have access to those. If you for some reason cannot open the article of your choice, let me know, and I will send you the article as a PDF.

There will be three parts in the assignment:

1. Return first version of the assignment, DL 15.11.
 - Return using PeerGrade, link in MyCourses.
 - Main findings included but does not need to be polished.
 - This will not be graded, you will receive the points if you just submit an acceptable version (acceptable = the figure and draft versions for the main parts included, do not need to be polished and may still miss information).
2. Peer-review of two of your fellow student's assignments, DL 22.11.
 - Give feedback through PeerGrade. You will be automatically assigned to give feedback to two of your peers.
 - The peer-review will be double-blind, e.g., you will not know whose assignment you evaluate or who evaluated yours
 - To keep it double-blind, please don't write your name in the first draft.
 - Remember to keep the feedback constructive, be specific and clear, and remember to give also positive feedback!
 - Note that the assignments you will review may be written from a different article than you chose. In this case, you will not need to read the article (you can read them, of course), there should be everything you need for the review in the assignment.
3. Return final version of the assignment, DL 1.12.
 - Return final version in MyCourses.
 - Modify the version you submitted earlier according to the feedback from peer review. You can also make changes based on what you have learned

since submitting the first version, if relevant. Polish the version you submitted as a first draft, if needed.

Please see below for more detailed instructions for writing the assignment and peer-review.

Instructions for writing the assignment:

1. Write a **short summary** of the key findings of the paper. Do not copy the abstract but use your own words. For example, “The article describes ... which is important because...”
 - a. Write max ¼ pages.
2. **Describe and explain** the methods and approaches that were used to generate and analyze the data with your own words.
 - a. **What** exactly is done? **Why** is the method used? Do not repeat the description of the methods as given in the research papers. **“Chromatin-immunoprecipitation is based on Method X is used to show/analyze....”** Do not include results here, just explain, what is done, how is it done, and what is it based on.
 - b. Write max 0.5 pages.
3. Attach the figure into your assignment (copy from the publication)
4. Analyze the figure and the results obtained. A) First tell **what** and **why** the authors of the paper concluded based on the figure. B) Then shortly discuss, how the conclusions were justified. Pay special attention to the **positive and negative controls/experiments** that were used and the **appropriateness of the selected method**. E.g., “In figure X shows xxx, negative control, positive control. The authors conclude that xxx.” “The method chosen allowed evaluation of.”
 - a. Write max 0.5 pages
 - b. There is not necessarily one correct answer for B. Important is that you can evaluate the results and argue, why you think something is done and how the scientific data can be read and evaluated.
5. **Remember to add your name to the final version (but please leave it out from the version submitted for peer-review)**
6. Submit the final assignment as a single PDF-file.

Instructions for peer-review

Return your to PeerGrade (link in Mycourses). You will be automatically assigned two submissions by your peers to review, once the submission time is over. The submissions you will review may or may not be written based on the article that you wrote about. If it is different, you will not need to read the article (you can, of course, if you want) but the information in the submission should be sufficient to review it.

Read the submissions you are assigned to in the PeerGrade and answer to the questions given before the deadline. There is no minimum length set for the answers, 2-5 sentences per question is good.

In your reviews, please answer to the four questions in PeerGrade. Remember to keep the feedback constructive, be specific and clear, and remember to give also positive feedback! Please also remember that you are reviewing draft versions which do not need to be polished. Try to give feedback that will help your peers to finish and preferably further improve their assignments.

Your feedback will not be graded, you will just need to do it, and you will get the points for that. As an exception, answering “ok” to every question or giving inappropriate (offensive etc.) feedback will give you 0 points.

Evaluation

The assignment contributes altogether 20% to the final grade.

Evaluation criteria:

- Submission for peer-review (20 points)
- Peer-review done (10 points)
- Submitted final version on time, the whole text is self-written (10 points)
- all requested elements are included and presented in an appropriate manner
 - Summary is accurately and adequately describing the key findings of the article. The text is not copied form the abstract of the article but self-written. (20 points)
 - Method(s) description (20 points): self-written, not only a recapitulation of the method description in the paper -> 0 points
 - Analysis of the results (20 points): key message understood, important controls/control experiments recognized and mentioned.