Perception: Psychophysics and Modeling

01a | Administration

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Language of instruction

The language of instruction for this course will be English.

This course places a strong emphasis on reading: up-to-date textbooks as well as primary research papers, both of which are exclusively in English. To be consistent with this, slides and quizzes are also in English.

Our deal: please interrupt me should I speak too fast, or you are unfamiliar with the words I am saying. I am very happy to clarify (and repeat some sentences in German if needed).

Course format

This course is based on the following six different teaching elements:

1. Synchronous face-to-face lectures—like now and the standard before the Covid-19 pandemic. Most often there will be time before and after the lecture for you to ask questions.

2. Asynchronous online video lectures—you watch them at your own time and pace. They will not be by myself but use freely available videos.

3. MATLAB programming tutorials—commented code you can execute and manipulate (Live Code using .mlx-files).

4. Online Quizzes in ILIAS.

Course format | Quizzes

I will make use of ILIAS' online learning quizzes, and expect you to do them as your homework.

Quizzes are beneficial for two reasons:
1. You get direct feedback whether you are on top of the material …
2. I get direct feedback whether you are on top of the material …

Quizzes do not count towards your grade—no need to copy answers from your peers. They are designed and meant to help you (see no. 1 above).

I will explain the solutions to quiz-questions with low number of correct answers in the next lecture, so no. 2 above helps you in the end, too, by identifying those areas where my explanations were poor.

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5. Forum on ILIAS.

Course format | Forum

Use the forum on ILIAS—your place to post questions if you find something unclear, or would like some more detail or background information.

Answering questions in the forum is not only helping others—is a great way to ensure you know the material and it is thus not only kindness to your fellow students but is beneficial for you, too.

Better be only partially correct than not to attempt an answer at all.

Do not send me questions about the content of the course via email—instead post them in the forum.

For some of the posted questions I may provide the answers either in the forum or by providing you with an (asynchronous) video—another benefit of the course forum.

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5. Forum on ILIAS.

6. Synchronous face-to-face inverted classroom meetings—roughly ¼ of all face-to-face meetings. Use the forum to write yourselves collective notes of discussions (or even standard lectures).

Course format | inverted classroom method (ICM)

Some of the lectures will be in a perhaps unusual teaching format:
I will use inverted classroom ideas:

You prepare the content at home—mainly in the old-fashioned "Gutenberg-method-style", i.e. reading—at your own pace and we discuss the material in class.

The ICM is a blended learning method in which a self-directed learning phase (individual phase) precedes the classroom-instruction phase. During the [self-directed learning] phase, factual knowledge is imparted that serves as a basis for the classroom phase. The classroom phase should subsequently be used to assimilate and implement the previously gained knowledge. In contrast, traditional course concepts impart factual knowledge in lectures, ... (TOLKS et al., 2016, p. 1/23)

The persistent pervasiveness of instructor-centred learning formats is not only to be found in medical education ... . Although alternative teaching and instruction formats have already been designed and their effectiveness deemed positive in empirical evaluation, the lecture remains the most practised means of transmitting knowledge ... . In its essence, however, learning is not a question of transmitting information but, moreover, a question of processing information. (TOLKS et al., 2016, p. 2/23)

Course format | inverted classroom method (ICM) (cont'd)

The goal of the Inverted Classroom Model is a shift from passive learning to accelerated learning in the classroom phase in order to accelerate the acquisition of more demanding competencies such as analysis, synthesis and evaluation. (TOLKS et al., 2016, p. 3/23)

Video use can be made a central aspect of the ICM. As previously described, it is equally possible to implement other learning material. In other words, the ICM is not "video learning" … . (TOLKS et al., 2016, p. 5/23)

Certainly not much "video learning" in this course: Yes, there are a number of videos to be watched, but generally I prefer reading as an optimal means of information acquisition—you will have to read prior to the classes.

Course format | inverted classroom method (ICM) (cont'd)

*The classroom phase should serve as a forum for application of previously delivered factual knowledge. This face-to-face phase leans more strongly toward tasks, interaction and questions. The instructor should not repeat content from the [self-directed learning] phase during the classroom phase. Course participants must fully understand that preparation for the classroom phase and assuming responsibility for it represents a central part of the concept ... . (*TOLKS* et al., 2016, p. 6/23)*

*The general advantage of the Inverted Classroom Model as opposed to the classic lecture lies in removing the transmission of purely factual knowledge from the classroom phase, thus making more time available for the application of knowledge and for transfer accomplishment in this face-to-face phase ... . (*TOLKS* et al., 2016, p. 6/23)*

Course format | inverted classroom method (ICM) (cont'd)

The disadvantages of the ICM emerge chiefly when the requirements for the successful implementation of the methods are not fulfilled. (Tolks et al., 2016, p. 6/23)

Firstly, it is evident that the effective implementation of the ICM requires that students prepare themselves with the aid of learning materials made available to them previously. Some reasons for inadequate acquisition of knowledge in the ... self-directed learning phase may be lack of time, lack of motivation, or highly complex content ... . (Tolks et al., 2016, p. 6/23)

The problematic nature of this lack of assimilation then also comes to light when the classroom phase does not build on the online phase. Consequently, assimilation does not take place and the course participants' motivation to prepare for the following course declines. The significance of a careful selection of preparatory material is correspondingly great. (Tolks et al., 2016, p. 6/23)

A further requirement for the effective implementation of the model is an initial instruction of the students, in which the aforementioned conditions are explained ... . (Tolks et al., 2016, p. 7/23)

Course format | inverted classroom method (ICM) (cont'd)

What can you expect from me?

Reading list and PDFs: I will provide you with the relevant articles and book chapters. They are carefully selected and should be appropriate in content and complexity—if not, let me know ASAP.

Annotations: The reading lists will contain information about which pages and concepts are more (or less) relevant, and in which order the material should be read and worked through.

Questions: Together with the reading I will ask you questions to consider while reading—the questions will be discussed during the face-to-face meetings and should help you to concentrate on some of the most relevant issues.

Course format | inverted classroom method (ICM) (cont'd)

What do I expect of you?

Read the material I provide you with.

While reading make detailed notes about the things you do not understand …

… and ask me and your fellow students …

… either in the forum—if you cannot continue without understanding—or during class.

Be active in class.

Actively contribute content to the forum.

Important Administrative Information

Exam will very likely be on the 10th of Februar 2022 from 12:00 till 14:00 hrs (Hauptprüfungstermin).

Exam will be an online exam—room to be determined.

If you decide not to write the exam on the Hauptprüfungstermin on 10.02.2022, your earliest next chance to take the exam will be together with the next cohort at their regular exam date, likely in January or February 2023.

In the unlikely event that you do not pass the exam (Hauptprüfung), you will be offered a reexamination (Nachprüfung). The reexamination will happen sometime after the term break, i.e. at the end of March, during April or, at the latest, May 2022.

Exceptions: You are eligible to take the reexamination as your first examination attempt if …
a. You provide a medical certificate (ärztliches Attest) within 3 working days after the missed first exam (Hauptprüfung).
b. You provide me with a very convincing reason via email why you missed the exam—again within 3 working days after the missed first exam (Hauptprüfung).

Details of the examination and reexamination rules can be found here:
https://uni-tuebingen.de/en/fakultaeten/mathematisch-naturwissenschaftliche-fakultaet/
fachbereiche/informatik/lehrstuehle/neuronale-informationsverarbeitung/teaching/lectures-
seminars/exam-rules-nip/

Important Administrative Information (cont'd)

Typically I expect you to know all material mentioned in your **Assignments**—in particular all the articles and book chapters listed therein even if the material is not discussed at length during the lecture!

In addition I expect you to know the material mentioned during the lectures unless **I explicitly mark a slide or topic as not relevant for the exam**.

Finally, all material covered in the quizzes is relevant for the examination at the end of the course.

Some slides have a white background, some have a dark blue background: This is mainly an aesthetic choice. (Partly, perhaps, to visually jolt you out of sleep … .)

Remember

Quality of teaching varies tremendously—it varied at school, and it varies at University, and it will vary all through your lives.

The quality depends on many aspects, not least your teacher or lecturer, the topic of the course, how regularly you meet, whether you meet in person or only online etc.

Much is, alas, outside your control—the topic, for example, if you attend compulsory courses. The study material. Or the person teaching.

However, despite all of this, you yourself always play a crucial role in the success of a lecture or seminar course:

The more active students are, the more they ask questions, use the forum, start discussions, provide feedback about the difficulty of articles or book chapters, the quizzes etc. etc. etc. ... the better the course for themselves and everyone ...

... including the lecturer.

Thank you

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