Organization of Exercises: T0 Mathematical methods, WiSe2020/21 (Version dated 19.01.21)

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Webseite: https://moodle.lmu.de → Kurse suchen: T0 Rechenmethoden

Important dates (including exam dates): siehe Moodle → Termine
http://www.physik.uni-muenchen.de/lehre/vorlesungen/wise_19_20/r_rechenmethoden_19_20/info/termine/index.html

Importance of the exercises: The mathematical methods taught in the R-lecture are fundamental tools for doing physics; you be fully proficient and fluent in them. This can only be achieved with practice, practice, practice! Take the exercises seriously - they are the most important part of the course! **Those who are unable to solve the exercises independently do not stand a chance to pass the exams.** The exams predominantly consist of "typical exercises" (in modified form). In particular, practice **reliability** (avoiding careless mistakes) and **speed** when doing calculations – e.g. by solving several similar problems until you attain fluency.

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Exercise sign-up: compulsory, online, for detailed insructions click here. There you can state your preferred tutorial time slots; you will then we assigned to a particular exercise group (Übungsgruppe) via a lottery scheme. Sign-up begins Tue, 12.10.20, and ends Thu, 29.10.20, 23:59. Late sign-up (for latecomers): 30.10.20, 18:00 – 05.11.20, 23:59

English exercises: Ever physicist eventually needs to read specialized physics literature in English, at the latest for the bachelor thesis during the 6th semester. The sooner you start doing physics in English, the better! Therefore some tutorials are offered in English (groups 1,7,11,12,20). If you prefer attending German tutorials, please make your selection accordingly. Conversely, those who prefer English tutorials should give these high priority when indicating your preferences. The English tutorials are based on English translations of the German exercise sheets; you can submit your solutions in either German or English.

Assignment of exercises groups: On Fri, 30.10.20, at 19:00, the assignment of registered into different exercise groups with corresponding time slots will be announced on the lecture homepage and in the LSF. Changes to your assignment can only be made in rare circumstances. To request a change, please email m.gievers@physik.uni-muenchen.de (with a detailed justification), according to the instructions for exercise sign-up on the course website.

Guest visits to other tutorials: Your final exercise group assignment (after requests for changes have been considered) also determines your "grading tutor", who will grade your exercise sheets and computes your final exercise score. However, you are welcome to attend other tutorials (either in addition to or instead of that of your grading tutor) if the other tutor consents. Nevertheless, for grading purposes you remain associated with your initial exercise group, and your homework solutions will always be graded by your must therefore always be placed in the submission box of your grading tutor, and your solutions will always be graded by your grading tutor.

Unofficial participation in exercise classes without registration is possible for students with no intention of receiving an exercise grade (i.e. retirees); they will not be assigned to any exercise group and may choose one on their own.

Weekly exercise times:

Mo	Thur afternoon	Mo, Tue	Thur afternoon	Mo, Tues	Office hours
Current exercise sheet goes online. Self-study starts.	Central exercise. Master solutions for EP go online.	Tutorials	Submission of previous homework sheet. Master solutions for HP go online.	Return of previous homework sheet.	Mo 16-17 We 10-11

1. Publication of the „current exercise sheet“ occurs online, late Monday afternoon. It deals with the material covered in the lectures of the current week (Mo, Wed). It contains *example problems* (EP) serving as templates for solving the homework problems, *homework problems* (HP) to be solved independently and submitted, and *optional problems* (OP) for enthusiasts. Abbreviations indicate the degree of difficulty: E = easy, M = medium, A = advanced.

2. Self-study of the current sheet should start as soon as possible, most certainly before the exercise class dealing with that sheet one week later. Try to solve some example problems. Figure out how the example problems and homework problems are related. Identify which issues are unclear to you, to be able to ask informed questions in the tutorial.

3. Central Exercise (Zentralübung)**:** Thu, 14-16 (three days after publication). It is used (i) by **Dr. Bernhard Emmer,** emmer@physik.uni-muenchen.de for **presenting the solutions** of several example problems the current exercise sheet; (ii) as time slot for the practice exam, Thu, 16.01.20, 14:15 – 16:00 [its grade contributes to the exercise bonus].

4. Master solutions for the example problems are published late Thursday afternoon.

5. Tutorial: (Mo. & Tu., One week after publication of the current sheet.) The Tutor:
- discusses common mistakes found on the solutions which were graded and returned just before;
- answers questions regarding the lecture and the example problems which were presented in the central exercise;
- presents the solutions of further example problems from the current sheet and explains how they are related the new homework problems (often they are very similar, having understood the former you will know how to do the latter!);
- helps his/her students, ideally via joint discussions (possibly in small groups of 2-4 people in Zoom breakout rooms) to get started on solving the homework problems.

Goal: By the end of the tutorial, you will have some rough ideas for how to tackle your homework problems.
6. Homework: Complete, handwritten solutions to the homework problems are to be produced at home and submitted on time (see 7.). Homework problems may be solved together in groups, but each student must submit his/her own version in his/her own handwriting. Writing down and understanding the solutions oneself is very important! You may use either German or English for your solutions, regardless of whether you are in a German or English group – in any case the solutions mostly consist of formulas, not text.
7. Submission of homework solutions: 11 days after the publication date, by Thursday afternoon, 14:00, via file-upload on Moodle. After this time, no upload is possible. Solution sheets should be photographed/scanned in sorted order and uploaded as a single .pdf file. The first page should clearly display your name and exercise group number (1,2,…) in printed letters at the top, right corner. The only file format accepted by the Moodle submission form is .pdf (this facilitates the tutors' task of grading the solutions electronically). Plan in a troubleshooting time reserve of at least one hour for doing the upload – even though uploading typically proceeds smoothly, all sorts of unexpected technical problems do arise ever so often. If the upload nevertheless fails to succeed by 14:00, the solution should be emailed to the grading tutor immediately thereafter, and no more than 5 minutes after the submission deadline.

8. Master solutions for the homework problems will be published late Thursday afternoon.

9. Return of graded homework solutions: done by your grading tutor via Moodle, before the start of the next tutorial.

10. Office hours (Zoom, Mo 16-17, We 10-11, directly after the lecture): can be used to ask the lecturer questions about any lecture or any problem set (past or current).

Copying and pasting (plagiarism): Copying homework solutions is unacceptable (regardless from which source). If you copy, you first and foremost cheat yourself. The exam is challenging. Without regular practice in solving difficult problems on your own, you will struggle mightily in the exam. When caught copying for the first time, you will receive a warning and lose 25% of all points achieved for that problem set. For all subsequent cases of copying, you will get 0 points for the entire problem set. Each case of suspected copying will scanned and reported to the lecturer.
– Submitted solutions based on honest, independent work are usually preceded by rough drafts. Keep and file such drafts at home until the end of the semester, to be able to refute unfounded allegations of copying.

Minor subject & teacher trainees (Nebenfach & Lehramt, N & L, 6 ECTS credits): You are examined only on the material of lectures 1-18 and exercise sheets 1-9. (You can improve your grade by answering exam questions on the remaining material.)

Criteria for passing and earning a certificate (Schein): Final grade (Endnote) E ≥ 50%.

Computation of final grade: The final grade E (in %) is computed as **E = max (H, N) + 0.15Ü**, with H and N the scores (in %) for the main and extra exams (Haupt- und Nachklausur) and Ü the exercise bonus (Übungsbonus) (in %).

Exercise Bonus (Übungsbonus)**:** Ü (in%) is the percentage of points achieved from the total score [of sheets 01-12 (N & L: of sheets 01-09) and the practice exam] (the practice exam is treated as an additional exercise sheet). Ü enables you to improve your final grade by up to 15%. If you do not submit homework solutions or do not participate in the practice exam, you are thus giving away bonus points. Aim to maximize your exercise bonus, since the exams are challenging!! By past experience, among those students with Ü < 40%, less than 25% manage to earn a certificate.

Attendance is compulsory: for students taking the course for the first time. This does not apply to returnees (Wiederholer), high school students (Frühstudenten) and retirees (Senioren). The minimum requirement for earning an exercise bonus is participation in at least 8 out of 12 (N & L: 6 out of 9) tutorials in separate weeks starting from the second week of classes (the get-to-know tutorial of the first week does not count), as documented via your presence on a Zoom attendance lists, else Ü = 0 is used. Attendance of lectures and central exercises is voluntary.

Attendance list: In each tutorial, a Zoom attendance sheet will be saved. If you attend several tutorials per week (you're welcome to do so!), your presence will be documented on several lists; however, only one participation per week is counted when checking whether the minimum required for attendance has been fulfilled.

Returnees (Wiederholer)**:** are exempted from compulsory attendance and can decide freely whether they wish to participate in the tutorials. However, they must solve and submit the homework problems in order to earn a (newly calculated) exercise bonus. Exercise boni earned in past semesters are not carried over to the present semester.

Admission to the exam: All exams are open to everyone. Registration for the exam starts 7 days before the exam date on the lecture homepage (not LSF). The extra exam (Nachklausur) can also be used to improve your grades.

Exam modalities: Absolutely no aids are permitted, also not self-written notes (Spickzettel), see Moodle → Klausur → Exam instructions.

Certificates: Your final grade will appear on your certificate (provided upon request), but not on the bachelor certificate; there, the T0-lecture grade is listed as either "passed/failed".