

Written home exam in FYS4160

2021 SPRING

Duration: June 9, 9:00 am to June 9, 1:30pm

(including time for uploading files, see below)

It is important that you read this cover page carefully before you start.

General information:

- Important messages during the exam are given directly from the course teacher on the course's semester page or in Canvas (if used in your course). It is therefore important that you check the course's semester page / Canvas room regularly.
- Your answer should reflect your own independent work and should be a result of your own learning and work effort.
- All sources of information are allowed for written home exams. If you reproduce a text from books, online articles, etc., a reference to these sources must be provided to avoid suspicions of plagiarism. This also applies if a text is translated from other languages.
- You are responsible for ensuring that your exam answers are not available to others during the exam period, neither physically nor digitally.
- Remember that your exam answers must be anonymous; do not state either your name or that of fellow students.
- If you want to withdraw from the exam, press the hamburger menu at the top right of Inspera and select "Withdraw".

Collaboration during the exam:

It is not allowed to collaborate or communicate with others during the exam. Cooperation and communication will be considered as attempted cheating. A plagiarism control is performed on all submitted exams where text similarities between answers are checked. If you use notes that have been prepared in collaboration with others before the exam, this might be detected in a plagiarism control. Such text similarities will be considered an attempt at cheating.

Cheats:

[Read about what is considered cheating on UiO's website.](#)

Digital hand drawing / file upload: You have been given 30 min. extra time for uploading files (e.g. digital hand drawings). [Check out how to submit digital hand drawings](#)

Contact information: [User support exam](#)

Final exam

Lecture spring 2021: General Relativity (FYS4160)

↪ *Carefully **read the whole question** before you start to answer it! Note that you do not have to answer the problems in the order presented here, so try to answer those first that you feel most sure about. Keep your descriptions as short and concise as possible!*

Remember that you can use ‘everything’ that you can find in the lecture notes, textbooks or online – but reproducing any text or mathematical derivation literally will be considered cheating (unless properly marked as citation). You also must state your answer based on what was actually covered in this course (as found in the lecture notes and exercises); in particular, there should be no need to use any new notation, results or conventions whatsoever – but if you do, you must first introduce this properly, in your own words, by explicitly connecting it to the corresponding results and contents found in the lecture notes or exercises.

Answers given in English are preferred – but feel free to write in Scandinavian if you struggle with formulations! This exam consists of 5 problems (and subproblems), distributed on 4 pages. Maximal number of available points: 45.

Good luck !!!