Course information

Welcome!

Note: The examination on 14 January 2021 will be carried out in a different Canvas room. If you have registered for the exam you will get an invitation to that room.

The course will be given on campus. See the schedule for rooms. In addition the lectures and exercise classes will be live streamed on zoom for those of you who cannot come to KTH. Here is the **zoom link for the lectures   (https://kth-se.zoom.us/j/67795752649)** and here is the **zoom link for the exercise classes   (https://kth-se.zoom.us/j/64069959983)** .

New for this year 2020: The course will cover relativistic analytical mechanics in more detail compared to previous years, where is was only discussed briefly. Instead the relativistic continuum mechanics and the energy tensor will be somewhat deemphasised. This change will also be reflected in the exam (typically the last problem).

Welcome to SI2371 Special Relativity. The course will familiarise you with the geometry of space-time, relativistic kinematics, the use of tensor notation in relativity, and electromagnetism in a relativistic setting. Information relevant to the course can be found in the menu to the left.

Course plan (https://canvas.kth.se/courses/20043/assignments/syllabus)
Problem sessions (https://canvas.kth.se/courses/20043/pages/problem-sessions)
Test exam info and rules (https://canvas.kth.se/courses/20043/pages/test-exam)
Examination and grading (https://canvas.kth.se/courses/20043/pages/examination-and-grading)

Old exams (https://canvas.kth.se/courses/20043/pages/old-exams)

Course literature:

- *Introduction to Special Relativity* 2nd ed., Oxford University Press (1991), Rindler.

Recommended reading:

- *A first course in general relativity*, Cambridge University Press (1985), Shutz. (Also contains a well written introductory part on special relativity)
- *Special Relativity, From Einstein to Strings*, Cambridge University Press (2004), Schwarz and Schwarz. (A more formal treatment including more general coordinates and some advanced topics)
- ***Relativity theory*, KTH (2005), Mickelsson, Ohlsson, Snellman (https://canvas.kth.se/courses/20043/files/3244594/download?wrap=1)**

(https://canvas.kth.se/courses/20043/files/3244594/download?wrap=1) . (Course compendium for old course). Note that the compendium does not correspond exactly to this course and that chapters 2 and 3 treat general relativity. However, chapter 1 contains a large number of relevant problems and has a significant overlap with the course.

- **Lecture notes from previous course rounds (https://canvas.kth.se/courses/20043/files/3244595/download?wrap=1)** (https://canvas.kth.se/courses/20043/files/3244595/download?wrap=1) written by Mattias Blennow.
- Additionally, some **online course material are here (https://canvas.kth.se/courses/20043/pages/online-material)** .

The old KTH course compendia may be very difficult to obtain, but are well worth the read if you are able to find a copy.