

## MaPh 468 : Introduction to Relativity

**Term:** Winter 2009 **TR 14:00 — 15:20 in CAB 273**

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### **Textbook:**

Spacetime and Geometry - *an introduction to General Relativity*, by Sean Carroll, Addison Wesley publishers.

### **Suggested references:**

Most of these are more advanced classic texts if you want to further your reading of general relativity and its applications beyond this course:

1. Gravity - *an introduction to Einstein's General Relativity*, by James Hartle; Addison Wesley publishers.

*This book is at the same level as the textbook and is designed for an undergraduate course. Good for studying lots of physical applications.*

2. The large-scale structure of space-time, by SW Hawking and GFR Ellis, Cambridge University Press.

*This book is great if you are looking to learn more about black holes, singularity theorems and mathematical general relativity.*

2. General Relativity, by Robert Wald.

*Good balance between mathematical rigour and physics insights.*

There is also a good book by S. Weinberg, for those who are more interested in the applications of general relativity, particularly to cosmology. Finally, if you like lots of figures and intuitive explanations, there is a super-heavy book by Misner, Thorne and Wheeler - for those who can lift it!

**Grading:** Homework 20 %, Mid-term 30 %, Final 50 % . Mid-term and Final are open textbook — you are allowed to get Carroll's book.

Mid-term: *February 26, in class*. Final exam date will be announced by the university.