

Applied Mathematics 507

Introduction to Relativity Theory

(see Course Descriptions for the applicable academic year: <http://www.ucalgary.ca/pubs/calendar/>)

*Syllabus*

<u>Topics</u>	<u>Number of hours</u>
I Special Relativity:	
Kinematics (Minkowski space)	6
Dynamics	4
Electromagnetism	5
II Tensor Analysis:	
Tensors	4
Affine Connections	4
Metric (Riemann Geometry)	4
III General Relativity:	9
Equations of motion, Field equations	
Schwarzschild solution	
<b>Total</b>	<b>36</b>

**References:**

- R. Resnick: Introduction to Special Relativity -- I
- W. Rindler: Essential Relativity -- I, II and III
- E. Schrodinger: Space-time Structure -- II, III
- Adler, Basia, Schiffer: Introduction to General Relativity -- II, III
- d'Inverno: Introducing Einstein's Relativity -- I, II and III

**Note:** These are very rough estimates: the instructor has the flexibility to accommodate needs and wishes of the students.

\*\*\*\*\*