



The Hebrew University of Jerusalem

Syllabus

RELATIVITY AND GRAVITATION - 77909

Last update 29-07-2015

HU Credits: 5

Degree/Cycle: 2nd degree (Master)

Responsible Department: physics

Academic year: 0

Semester: 1st Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Tsvi Piran

Coordinator Email: tsvi.piran@mail.huji.ac.il

Coordinator Office Hours: tuesday 11-12

Teaching Staff:

Prof Tsvi Piran
Mr. Doron Grossman

Course/Module description:

This is a basic course in the General theory of relativity

Course/Module aims:

Understanding the basic principles of the special and general theories of relativity and usage of these principles for solving simple relativistic problems.

Learning outcomes - On successful completion of this module, students should be able to:

To solve basic problems in special and general relativity

Attendance requirements(%):

0

Teaching arrangement and method of instruction: lecture and exercise classes

Course/Module Content:

*Short introduction and review of the special theory of relativity.
Basis of differential geometry.
Einstein equations.
Simple problems in General relativity*

Required Reading:

Some chapters from Weinberg -Gravitation and Cosmology

Additional Reading Material:

*Misner Thorne and Wheeler - Gravitation
Landau Lifshitz - The classical theory of fields.
Wald - General Relativity*

Course/Module evaluation:

*End of year written/oral examination 80 %
Presentation 0 %
Participation in Tutorials 0 %*

Project work 0 %
Assignments 20 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information:

Excellent students can take this course as undregraduates in third year after a pre approval of the lecturer.