

# The Hebrew University of Jerusalem Syllabus

# RELATIVITY AND GRAVITATION - 77909

Last update 29-07-2015

HU Credits: 5

<u>Degree/Cycle:</u> 2nd degree (Master)

Responsible Department: physics

Academic year: 0

Semester: 1st Semester

<u>Teaching Languages:</u> Hebrew

Campus: E. Safra

Course/Module Coordinator: Tsvi Piran

<u>Coordinator Email: tsvi.piran@mail.huji.ac.il</u>

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 relativisy and usage of this principles for solving simple relativistic problems.

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

To solve basic problems in special and general relativity

## Attendance requirements(%):

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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 differencial 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

<u>Course/Module evaluation:</u>
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.