האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

# *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 relativisy and usage of this 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 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*

*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.*