



Credit required for the M.Sc. degree in Physics

Mandatory courses – 25 credit points

Elective courses – 10 credit points

Total credit points – 35

First and second year mandatory courses:

77800 – ADVANCED QUANTUM THEORY 1 (4)

77802 - STATISTICAL MECHANICS 1 (4)

77805 –WEEKLY PHYSICS COLLOQUIUM (0)

Second year mandatory courses:

74442 - FINAL M.SC. EXAMINATION (0)

74443 - M.SC. THESIS (0)

Mandatory- minimum 17 credit points from the courses below, from at least three different groups:

Group A

77712 – ADVANCED ASTROPHYSICS: COSMOLOGY AND GALAXIES (5)

77909 – RELATIVITY AND GRAVITATION (5)

77938 – ADVANCED ASTROPHYSICS: STARS AND HIGH ENERGIES (5)

Group B

77801 – ADVANCED QUANTUM THEORY 2 (3)

77856 – ELEMENTARY PARTICLES (5)

77915 – QUANTUM FIELD THEORY I (4)

Group C

77728 – NON-LINEAR DYNAMICS OF CONTINUOUS MEDIA (3)

77962 – PLASMA PHYSICS: COLLECTIVE PHENOMENA (4)

Group D

77960 – SOLID STATE PHYSICS A: ELECTRONS, PHONONS & TRANSPORT (5)

77961 – SOLID STATE PHYSICS B: COLLECTIVE PHENOMENA (4)

Group E

77964 – NUCLEAR PHYSICS A (5) (This course is not being taught in 2014-2015)

77990 – INTRODUCTION TO GROUP THEORY IN PHYSICS (4)

Group I

76908 – THEORY OF NEURAL NETWORKS 1 (4)

77991 – PHASE TRANSITIONS AND CRITICAL PHENOMENA (5)

Elective Courses – 10 credit points*:

67596 – INTRODUCTION TO QUANTUM COMPUTATION (4) (This course is not being taught in 2014-2015)

76909 – THEORY OF NEURAL NETWORKS 2 (4)

77315 – INTRODUCTION TO PHYSICS WITH COMPUTER (4)

77320 – INTRODUCTION TO ELECTRONICS A – ANALOGICAL (4)

77410 – ELECTRONIC TRANSPORT IN QUANTUM SYSTEMS (2)

77525 – INTERSTELLAR GAS (2) (This course is not being taught in 2014-2015)

77616 – INTRODUCTION TO PARTICLE ACCELERATORS (3)

77619 – NEW IDEAS AND EXPERIMENTS IN QUANTUM THEORY (3)

77632 – BLACK HOLES (4) (This course is not being taught in 2014-2015)

77641 – CLASSICAL FIELD THEORY (4)

77664 – INTRODUCTION TO LIQUID CRYSTALS (2)

77695 – NUCLEAR ASTROPHYSICS: SYNTHESIS OF THE ELEMENTS (2) (This course is not being taught in 2014-2015)

77696 – LIGHT-MATTER INTERACTION (2) (This course is not being taught in 2014-2015)

77727 – HIGH ENERGY ASTROPHYSICS (2)

77732 – COMPUTATIONAL PHYSICS OF COMPLEX SYSTEMS (3)

77740 – QUANTUM OPTICS (2) (This course is not being taught in 2014-2015)

77750 – INTERDISCIPLINARY SEMINAR A (2)

77751 – INTERDISCIPLINARY SEMINAR B (2)

77807 – PHYSICS OF NANOSCALE STRUCTURES IN SEMICONDUCTORS (3)

77826 – ASTROPHYSICS OF COMPACT OBJECTS (2) (This course is not being taught in

מזכירות

מכון רקח לפיסיקה
בניין לוי

Secretariat

The Racah Institute of Physics
Levin building

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2014-2015)

77838 – MEDICAL PHYSICS (3)

77844 – STRING THEORY A (3)

77853 – MATERIALS PHYSICS-STRUCTURE, PROPERTIES & KINETICS (3)

77869 – GAUGE THEORIES AND STRONG INTERACTIONS (4) (This course is not being taught in 2014-2015)

77871 – PHYSICS OF SEMICONDUCTORS (3)

77891 – QUANTUM TECHNOLOGIES (4) (This course is not being taught in 2014-2015)

77897 – INTERACTION OF HIGH POWER LASERS WITH MATTER (2) (This course is not being taught in 2014-2015)

77907 – STRING THEORY B (3) (This course is not being taught in 2014-2015)

77911 – PHYSICAL IMPLEMENTATIONS OF QUANTUM INFORMATION (2)

77916 – QUANTUM FIELD THEORY II (4)

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* Courses not from this list demand approval of the M.Sc. advisor

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