# Studies Plan

## EDPY - Physics 2018-19

### Core courses

<table>
<thead>
<tr>
<th>Courses</th>
<th>Language Code</th>
<th>Section</th>
<th>Teacher</th>
<th>Exam</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>Advanced biomedical imaging methods and instrumentation</td>
<td>E PHYS-719</td>
<td>EDPY</td>
<td>Gruetter</td>
<td>Term paper</td>
<td>4</td>
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<tr>
<td>Advanced experimental methods in condensed matter and nanophysics</td>
<td>E PHYS-630</td>
<td>EDPY</td>
<td>Kern</td>
<td>Oral</td>
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<tr>
<td>Advanced quantum field theory</td>
<td>E PHYS-702</td>
<td>EDPY</td>
<td>Rattazzi</td>
<td>Multiple</td>
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<tr>
<td>Advanced Topics in Quantum Sciences and Technologies</td>
<td>E PHYS-744</td>
<td>EDPY</td>
<td>Brantut Galland</td>
<td>Multiple</td>
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<tr>
<td>Before and Behind the Standard Model</td>
<td>E PHYS-746</td>
<td>EDPY</td>
<td>Wulzer</td>
<td>Oral</td>
<td>2</td>
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<tr>
<td>Conformal Field theory and Gravity</td>
<td>E PHYS-739</td>
<td>EDPY</td>
<td>Augusto Penedones</td>
<td>Multiple</td>
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<tr>
<td>Control and Operation of Tokamaks (Tokamak Plasma Control)</td>
<td>E PHYS-734</td>
<td>EDPY</td>
<td>Felici Moret</td>
<td>Oral presentation</td>
<td>2</td>
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<tr>
<td>Cosmology: Dark and Luminous Matters</td>
<td>E PHYS-730</td>
<td>EDPY</td>
<td>Courbin Jablonka</td>
<td>Oral</td>
<td>4</td>
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<tr>
<td>Fundamentals of superresolution optical microscopy and Scanning Probe Microscopy</td>
<td>E PHYS-631</td>
<td>EDPY</td>
<td>Sekatski</td>
<td>Multiple</td>
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<tr>
<td>Fusion and industrial plasma technologies</td>
<td>E PHYS-632</td>
<td>EDPY</td>
<td>Alberti Bruzzone Duval</td>
<td>Oral</td>
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<tr>
<td>Gauge Theories and the Standard Model</td>
<td>E PHYS-741</td>
<td>EDPY</td>
<td>Rattazzi Wulzer</td>
<td>Multiple</td>
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<tr>
<td>General aspects of the electronic structure of crystals</td>
<td>E PHYS-636</td>
<td>EDPY</td>
<td>Yevtushynsky</td>
<td>Oral</td>
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<tr>
<td>Introduction to Frustrated Magnetism</td>
<td>E PHYS-726</td>
<td>EDPY</td>
<td>Mila</td>
<td>Oral</td>
<td>2</td>
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</table>

Introduction to Metalorganic Vapour Phase Epitaxy of III-V semiconductors
(Every year / Next time: Spring 2019)
E PHYS-747 EDPY Cantoni Dwir Grandjean Rudra

Magnetic and semiconducting nanostructures
(Every 2 years / Next time: Spring 2020)
E PHYS-627 EDPY Butté Rusponi

Magnetic confinement
(Every 2 years / Next time: Fall 2018)
E PHYS-731 EDPY Fasoli Graves Loizu Cisquella Ricci Sauter Testa Tran

New Trends in Chiral Magnetism
(Only this year / MON 20.08.18 to FRI 24.08.18)
E PHYS-803 EDPY Various lecturers Project report

Parallel programming
(Every year / Next time: Fall 2018 (Block course))
E PHYS-743 EDPY Keller Richart Multiple

Plasma Diagnostics in Basic Plasma Physics Devices and Tokamaks: from Principles to Practice
(Every 2 years / Next time: Spring 2020 (Block course))
E PHYS-732 EDPY Fumo Labit Reimerdes Written

Plasma instabilities
(Every 2 years / Next time: Fall 2019)
E PHYS-736 EDPY Brunner Graves

Principles of Single Molecule Biophysics and its Applications
(Next time: From 08.10.2018 to 11.10.2018)
E PHYS-804 EDPY Bustamante Oral presentation

Quantum Field Theory Methods in Gravity and Cosmology
(Every 2 years / Next time: Spring 2019)
E PHYS-738 EDPY Sibiryakov Oral

Solid State Physics X: experimental techniques
(Every year / Next time: Spring 2019)
E PHYS-616 EDPY Crepaldi Gaal Rønnow Szirmai Zivkovic Oral

Spin Dynamics
(Every year / Fall)
E PHYS-745 EDPY Ansermet Various lecturers Oral

Ultrafast phenomena
(Every year / Fall)
E PHYS-724 EDPY Barilotti Chergui Oral presentation

Using Mathematica to analyse and model experimental data
(Every year / Next time: Spring 2019 (Block course))
E PHYS-625 EDPY Stadelmann Multiple

External courses

Courses
Language Code Section Teacher Exam Credit
High energy and space astrophysics (UNIGe)
(Every year / Fall & Spring (Full year))
E PHYS-708 EDPY Neronov Multiple 4
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Code</th>
<th>Type</th>
<th>UNIGe Members</th>
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<tbody>
<tr>
<td>Stellar evolution and nucleosynthesis (UNIGe)</td>
<td>PHYS-709</td>
<td>EDPY</td>
<td>University of Geneva faculty members</td>
</tr>
<tr>
<td>Structure and evolution of galaxies (UNIGe)</td>
<td>PHYS-710</td>
<td>EDPY</td>
<td>University of Geneva faculty members</td>
</tr>
</tbody>
</table>