**Standard Master program in Physics**
**(Solid State Physics)**

*(Dated October 29th, 2015)*

The total minimum required number of credits: **67 credits**

- General courses (required): **07 credits**
- Fundamental and core courses: **42 credits**
  + Required: **21 credits**
  + Elective: **21/42 credits**
- Master thesis: **18 credits**

## Available curriculum

| No | Code | Subjects | Credits | Credit hours | | | Prerequisite |
|---|---|---|---|---|---|---|---|
| | | | | *Lecture* | *Practice* | *Self-study* | |
| **I** | **General courses** | | **7** | | | | |
| 1 | PHI5001 | *Philosophy* | 3 | 30 | 15 | 0 | |
| 2 | ENG5001 | *General English* | 4 | 30 | 30 | 0 | |
| **II** | **Fundamental and core courses** | | **42** | | | | |
| ***II.1.*** | ***Required*** | | ***21*** | | | | |
| ***II.1.a*** | **Fundamental courses** | | ***12*** | | | | |
| 3 | ENG6001 | *English for Academic Purposes* | 3 | 40 | 0 | 5 | |
| 4 | PHY6000 | *Mathematics for Physics* | 3 | 40 | 0 | 5 | |
| 5 | PHY6001 | *Quantum Physics* | 3 | 40 | 0 | 5 | |
| 6 | PHY6002 | *Solving Physics Problems using Matlab* | 3 | 30 | 15 | 0 | |
| ***II.1.b*** | **Core courses** | | ***9*** | | | | |

| No | Code | Subjects | Credits | Credit hours | | | Prerequisite |
|---|---|---|---|---|---|---|---|
| | | | | *Lecture* | *Practice* | *Self-study* | |
| 7 | PHY6020 | *Advanced Solid State Physics* | 3 | 40 | 5 | 0 | PHY6002 |
| 8 | PHY6021 | *Advanced Physics of semiconductors* | 3 | 30 | 15 | 0 | PHY6002 |
| 9 | PHY6022 | *Advanced Physics of Magnetic Phenomena* | 3 | 30 | 15 | 0 | PHY6002 |
| ***II.2.*** | ***Elective*** | | ***21/42*** | | | | |
| ***II.2.a*** | **Fundamental courses** | | ***12/24*** | | | | |
| 10 | PHY6003 | *Measurement of Physical Quantities* | 3 | 30 | 15 | 0 | |
| 11 | PHY6004 | *Nano physics* | 3 | 40 | 0 | 5 | |
| 12 | PHY6005 | *History of Physics* | 3 | 40 | 0 | 5 | |
| 13 | PHY6006 | *Advanced Astronomy* | 3 | 40 | 0 | 5 | |
| 14 | PHY6007 | *Statistics and data analysis for Physics* | 3 | 30 | 15 | | |
| 15 | PHY6008 | *Topics in Modern Physics* | 3 | 40 | 0 | 5 | |
| 16 | PHY6009 | *Physics of Earth* | 3 | 15 | 0 | 30 | |
| 17 | PHY6010 | *Seminar in Research Topics* | 3 | 15 | 0 | 30 | |
| ***II.2.b*** | **Core courses** | | ***9/18*** | | | | |
| | ***Elective*** | | ***9/18*** | | | | |
| 18 | PHY6023 | *Magnetic Measurements* | 3 | 30 | 15 | 0 | PHY6020 |
| 19 | PHY6024 | *Solid State Physics Practice* | 3 | 10 | 35 | 0 | |
| 20 | PHY6025 | *Introduction to Spintronics* | 3 | 45 | 0 | 0 | PHY6023 |
| 21 | PHY6026 | *Sensors and applications* | 2 | 20 | 10 | 0 | PHY6022 |
| 22 | PHY6027 | *Quantum theory of solids* | 2 | 20 | 10 | 0 | PHY6002<br>PHY6021 |
| 23 | PHY6028 | *Interactions in rare-earth intermetallic compounds* | 2 | 20 | 10 | 0 | PHY6021 |

| No | Code | Subjects | Credits | Credit hours | | | Prerequisite |
|---|---|---|---|---|---|---|---|
| | | | | *Lecture* | *Practice* | *Self-study* | |
| 24 | PHY6029 | *Optoelectronics* | 3 | 45 | 0 | 0 | PHY6021 |
| **III** | | ***Master thesis*** | **18** | | | | |
| | **Total** | | **67** | | | | |