

# Physics and Nanoscience, Master's programme

120 credits

Fysik och nanovetenskap, masterprogram

6MFYS

Valid from:

**Determined by**

Board of Studies for Electrical  
Engineering, Physics and Mathematics

**Date determined**

## Entry requirements

### Degree in Swedish

Naturvetenskaplig masterexamen med huvudområde fysik

## Curriculum

### Semester 2 (Spring 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
<b>Period 1</b>					
TFFM40	Analytical Methods in Materials Science	6*	A1X	1	E
TFYA04	Materials Optics	6	A1X	4	E
TFYA21	Physical Metallurgy	6	A1X	3	E
TFYA25	Physics of Condensed Matter part II	6	A1X	2	E
TFYA36	Chaos and Non-Linear Phenomena	6*	A1X	3	E
TFYA71	Cosmology	6*	A1X	3	E
TFYA85	Alternative Energy Sources and their Applications	6	G2X	4	E
TFYY67	Classical Electrodynamics	6	A1X	1	E
<b>Period 2</b>					
TGTU76	Philosophy of Science	6	G1X	4	C
TFFM40	Analytical Methods in Materials Science	6*	A1X	1	E
TFMT19	Chemical Sensor Systems	6	A1X	4	E
TFYA18	Mathematical Methods of Physics	6	A1X	3	E
TFYA19	Quantum Computers	6	A1X	4	E
TFYA36	Chaos and Non-Linear Phenomena	6*	A1X	2	E
TFYA38	Optoelectronics	6	A1X	3	E
TFYA41	Thin Film Physics	6	A1X	2	E
TFYA71	Cosmology	6*	A1X	2	E

*Specialisation: Experimentell fysik*

Course code	Course name	Credits	Level	Timetable module	ECV
<b>Period 1</b>					
TFM40	Analytical Methods in Materials Science	6*	A1X	1	E
TFYA04	Materials Optics	6	A1X	4	E
TFYA25	Physics of Condensed Matter part II	6	A1X	2	E
<b>Period 2</b>					
TFM40	Analytical Methods in Materials Science	6*	A1X	1	E
TFYA38	Optoelectronics	6	A1X	3	E
TFYA41	Thin Film Physics	6	A1X	2	E

*Specialisation: Teoretisk fysik*

Course code	Course name	Credits	Level	Timetable module	ECV
<b>Period 1</b>					
TFYA04	Materials Optics	6	A1X	4	E
TFYA25	Physics of Condensed Matter part II	6	A1X	2	E
TFYA71	Cosmology	6*	A1X	3	E
TFYY67	Classical Electrodynamics	6	A1X	1	E
<b>Period 2</b>					
TFYA18	Mathematical Methods of Physics	6	A1X	3	E
TFYA19	Quantum Computers	6	A1X	4	E
TFYA71	Cosmology	6*	A1X	2	E

## Semester 3 (Autumn 2017)

Course code	Course name	Credits	Level	Timetable module	ECV
<b>Period 1</b>					
TFYA17	Advanced Project Work in Applied Physics	6*	A1X	-	C
TFYA53	Computational Physics	6	A1X	4	E
TFYA88	Additive Manufacturing: Tools, Materials and Methods	6	A1X	3	E
TFYY47	Semiconductor Physics	6	A1X	1	E
<b>Period 2</b>					
TFYA17	Advanced Project Work in Applied Physics	6*	A1X	-	C
TFYY54	Nano Physics	6	A1X	3	C
TFYA20	Surface Physics	6	A1X	4	E
TFYA27	Elementary Particle Physics	6	A1X	2	E
TFYA57	Relativistic Quantum Mechanics	6	A1X	3	E
TGTU04	Leadership	6	G2X	2	E

### *Specialisation: Experimentell fysik*

Course code	Course name	Credits	Level	Timetable module	ECV
<b>Period 1</b>					
TFYY47	Semiconductor Physics	6	A1X	1	E
<b>Period 2</b>					
TFYA20	Surface Physics	6	A1X	4	E

### *Specialisation: Teoretisk fysik*

Course code	Course name	Credits	Level	Timetable module	ECV
<b>Period 1</b>					
TFYA53	Computational Physics	6	A1X	4	E
<b>Period 2</b>					
TFYA57	Relativistic Quantum Mechanics	6	A1X	3	E

## Semester 4 (Spring 2018)

Course code	Course name	Credits	Level	Timetable module	ECV
<b>Period 1</b>					
TQXX30	Degree project - Master's Thesis	30*	A1X	-	C
<b>Period 2</b>					
TQXX30	Degree project - Master's Thesis	30*	A1X	-	C

ECV = Elective / Compulsory / Voluntary

\*The course is divided into several semesters and/or periods