

All Physics Modules 23/24

- Arrows indicate pre-requisites
- Pink fill – examined module
- Box size \propto CATS points

Level 1

PHY1001 Foundation Physics

PHY1002 Mathematics for Scientists and Engineers

PHY1003 Comp. Modelling in Phys

PHY1004 Scientific Skills

Level 2

PHY2001 Quantum & Statistical Physics

PHY2002 Physics of the Solid State

PHY2003 Astrophysics I

PHY2004 Electricity, Magnetism & Optics

PHY2005 Atomic and Nuclear Physics

PHY2006 Mathematical Physics

PHY2010
Employability for Physics

Industrial PHY3099 / International PHY3999 Placement

Placement / International Year

Level 3

PHY3001 Quantum & Relativity

PHY3002 Advanced Solid State Physics

PHY3003 Astrophysics II

PHY3004 Advanced EM & Optics

PHY3005 Nuclear & Particle Physics

PHY3006 Physics in Medicine

PHY3010 Physics Projects

PHY3007 Single Physics Project

PHY3008 Professional Skills

PHY3009 Computational Phys.

Level 4

PHY4003 Ionising Radiation in Medicine

PHY4004 Radiation Simulation

PHY4005 Planetary Systems

PHY4006 High Energy Astro

PHY4007 Laser Physics

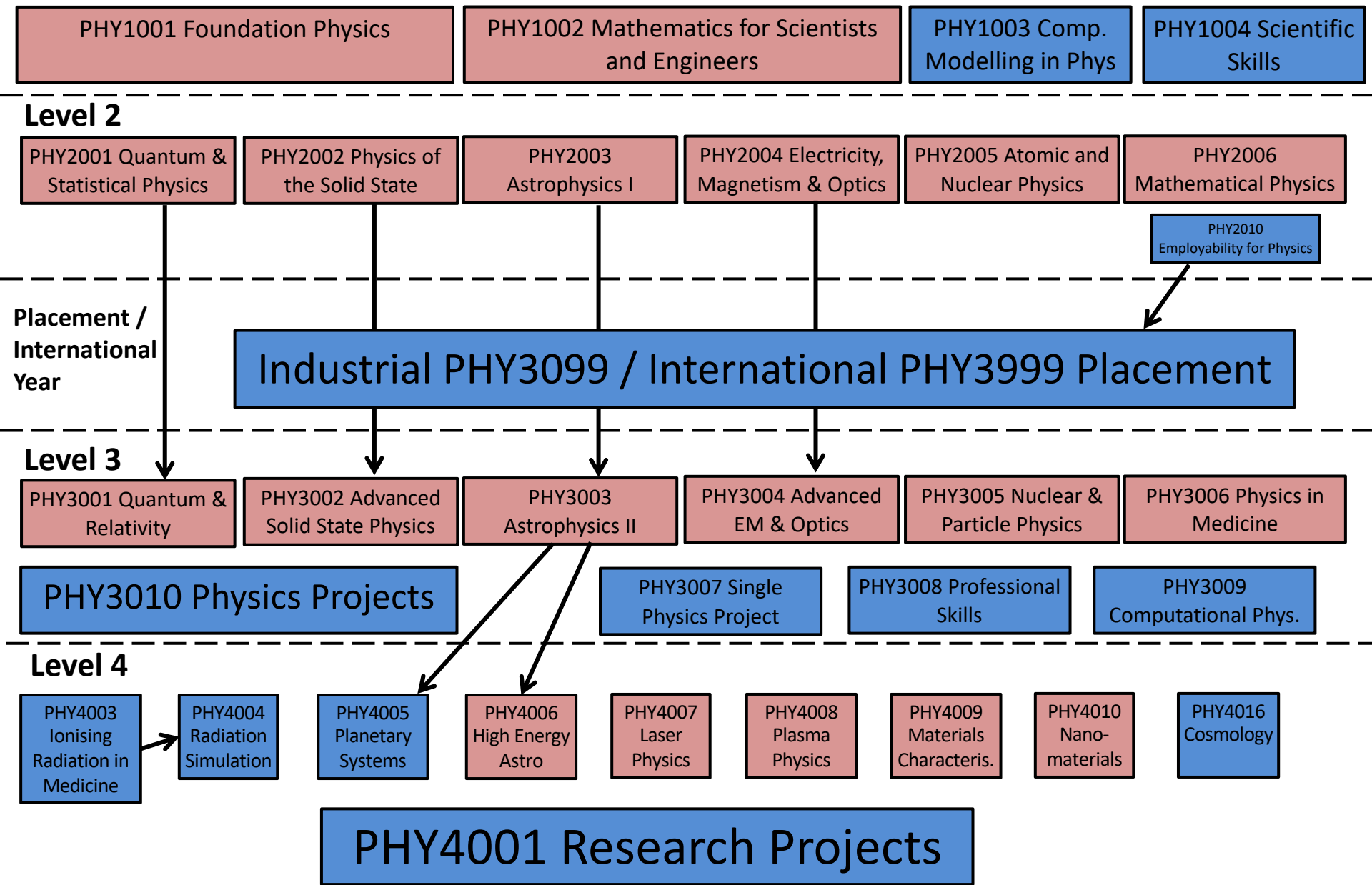
PHY4008 Plasma Physics

PHY4009 Materials Characteris.

PHY4010 Nano-materials

PHY4016 Cosmology

PHY4001 Research Projects



1st Semester

Level 1

2nd Semester

PHY1001 – Foundation Physics

40 CATS

- 30% - 2h exam (Dec, average of the two exams must be passed)
- 30% - 2h exam (May, average of the two exams must be passed)
- 20% - Tutorials (based on assignments submitted weekly and tutorial performance)
- 10% - Group Project (Middle of 1st semester in tutorial groups culminating in oral presentation)
- 10% - Tutorial Skills Development (activity in 2nd semester)

PHY1002 – Mathematics for Scientists and Engineers

40 CATS

- 35% - 2h exam (Dec, average of two exams must be passed)
- 35% - 2h exam (May, average of two exams must be passed)
- 30% - Tutorial homeworks (based on assignments submitted weekly and tutorial performance)

PHY1003 – Computational Modelling in Physics

20 CATS

- 100% - Assignments (5)
- 12.5%, 25%, 25% 1st semester
- 12.5%, 25% 2nd semester

PHY1004 – Scientific Skills

20 CATS

- 50% - Laboratory Performance based on write-up of experiments (must be passed)
- 10% - Extended Laboratory report
- 20% - Computational problems (solved with Matlab)
- 10% - Oral presentation (5min each)
- 10% - Scientific Essay (written on a popular topic for a general audience)

Level 2

1st Semester

PHY2001 - Quantum & Statistical Physics

20 CATS

60% - 3h exam (April/May)
20% - Laboratory (2 subject specific experiments)
20% - Assignments (6)

PHY2003 – Astrophysics I

20 CATS

40% - 2h exam (Jan)
40% - Assignments (4)
20% - Laboratory (2 subject specific experiments)

PHY2006 – Mathematical Physics

20 CATS

60% - 3h exam (Jan)
20% - Assignments (8)
20% - Group Projects (2)

2nd Semester

PHY2002 – Physics of the Solid State

20 CATS

60% - 3h exam (April/May)
20% - Laboratory (2 subject specific experiments)
20% - Assignments (2)

PHY2004 – Electricity, Magnetism and Optics

20 CATS

60% - 3h exam (April/May)
20% - Laboratory (2 subject specific experiments)
20% - Assignments (3)

PHY2005 – Atomic and Nuclear Physics

20 CATS

60% - 3h exam (April/May)
20% - Laboratory (2 subject specific experiments)
20% - Assignments (4)

PHY2010 – Employability for Physics

0 CATS

Compulsory attendance at training and workshops

Placement / International Year

PHY3099 – Placement Year

120 CATS

Students must be accepted onto a year long placement scheme at a UK employer.
Course contents is as defined by the School-approved student contract and job description

Assessment on based on a portfolio or reflective account of the student's employment experiences

PHY3999 – International Placement Year

120 CATS

Students must be accepted onto a year long placement at an overseas employer or study
Physics at an overseas university (can be sponsored by, e.g. IAESTE, Erasmus)

Assessment on based on a portfolio or reflective account of the student's employment experiences or a certificate of completion of Physics courses

1st Semester

Level 3 - BSc

2nd Semester

PHY3001 - Quantum Mechanics & Relativity

20 CATS

80% - 3h exam (April/May)
20% - Assignments (3)

PHY3002 - Advanced Solid State Physics

20 CATS

80% - 3h exam (April/May)
20% - Assignments (2)

PHY3004 - Advanced Electromagnetism & Optics

20 CATS

80% - 3h exam (April/May)
20% - Assignments (4)

PHY3005 - Nuclear & Particle Physics

20 CATS

80% - 3h exam (April/May)
20% - Assignments (3)

PHY3006 - Physics in Medicine

50% - 2h exam (April/May) **20 CATS**
20% - Group Project
30% - Assignments (4)

PHY3003 – Astrophysics II

20 CATS

80% - 3h exam (April/May)
20% - Assignments (3)

PHY3008 - Professional Skills

20 CATS

50% - Oral/poster presentations 35% - Log Book
10% - Abstract 5% - Peer Review

PHY3008 - Professional Skills

20 CATS

50% - Oral/poster presentations 35% - Log Book
10% - Abstract 5% - Peer Review

PHY3010 - Physics Projects

40 CATS

5% - Risk Ass. 10% - Oral presentation, 10% - Poster presentation, 25% - Lab performance, 50% - Written report

PHY3009 – Computational Projects

20 CATS

100% - Individual Computational Projects

PHY3007 – Physics Single Project

20 CATS

Same as PHY3010 but only one project undertaken

Level 3 - MSci

1st Semester

PHY3001 - Quantum Mechanics & Relativity

20 CATS

80% - 3h exam (April/May)
20% - Assignments (3)

PHY3004 - Advanced Electromagnetism & Optics

20 CATS

80% - 3h exam (April/May)
20% - Assignments (4)

PHY3006 - Physics in Medicine

20 CATS

50% - 2h exam (April/May)
20% - Group Project
30% - Assignments (4)

PHY3008 - Professional Skills

20 CATS

50% - Oral/poster presentations 35% - Log Book
10% - Abstract 5% - Peer Review

PHY3009 – Computational Projects

20 CATS

100% - Individual Computational Projects

2nd Semester

PHY3002 - Advanced Solid State Physics

20 CATS

80% - 3h exam (April/May)
20% - Assignments (4)

PHY3005 - Nuclear & Particle Physics

20 CATS

80% - 3h exam (April/May)
20% - Assignments (3)

PHY3003 – Astrophysics II

20 CATS

80% - 3h exam (April/May)
20% - Assignments (3)

PHY3008 - Professional Skills

20 CATS

50% - Oral/poster presentations 35% - Log Book
10% - Abstract 5% - Peer Review

Level 4

1st Semester

2nd Semester

PHY4001 – Physics Research Project

60 CATS

0% - Safety/Risk-mandatory
10% - Literature review
15% - Oral Presentation
30% - Lab Performance
45% - Written report

PHY4003 Ionising Radiation in Medicine – 10 CATS

30% - Online test
20% - Assignment
50% - Written Report

PHY4004 Medical Radiation Simulation– 10 CATS

40% - Assignment
60% - Written Report

PHY4006 High Energy Astrophysics – 10 CATS

30% - Assignment
70% - Exam (2h)

PHY4005 Planetary Systems – 10 CATS

40% - Assignment
60% - Written Report

PHY4008 Plasma Physics – 10 CATS

30% - Assignment
70% - Exam (2h)

PHY4007 Laser Physics – 10 CATS

30% - Assignment
70% - Exam (2h)

PHY4009 Physics of Materials Characteris. - 10CATS

30% - Assignment
70% - Exam (2h)

PHY4010 Physics of Nanomaterials - 10CATS

30% - Assignment
70% - Exam (2h)

PHY4016 Cosmology – 10 CATS

50% - Group Project Report
50% - Online test

Weeks 1-6

Weeks 7-12

Physics Programme Module Choices

- **L1**
 - Compulsory: PHY1001, 1002, 1003, 1004
 - Optional: None
- **L2**
 - Compulsory: PHY2001, 2002, 2003, 2004, 2005, 2006
 - Optional: None
- **L3 BSc**
 - Compulsory: PHY3008, (PHY3010 or PHY3007+PHY3009)
 - Optional: 3 from PHY3001, 3002, 3003, 3004, 3005, 3006
- **L3 MSci**
 - Compulsory: PHY3008, 3009
 - Optional: 4 from PHY3001, 3002, 3003, 3004, 3005, 3006
- **L4**
 - Compulsory: PHY4001
 - Optional: 6 from PHY4003, 4004, 4005, 4006, 4007, 4008, 4009, 4010, 4016

Physics with Astrophysics Module Choices

- **L1**
 - Compulsory: PHY1001, 1002, 1003, 1004
 - Optional: None
- **L2**
 - Compulsory: PHY2001, 2002, 2003, 2004, 2005, 2006
 - Optional: None
- **L3 BSc**
 - Compulsory: PHY3003, 3008, (PHY3010 or PHY3007+PHY3009)
 - Optional: 2 from PHY3001, 3002, 3004, 3005, 3006
- **L3 MSci**
 - Compulsory: PHY3003, 3008, 3009
 - Optional: 3 from PHY3001, 3002, 3004, 3005, 3006
- **L4**
 - Compulsory: PHY4001, 4005, 4006
 - Optional: 3 from PHY4003, 4004, 4007, 4008, 4009, 4010, 4016

Physics with Medical Applications Module Choices

- **L1**
 - Compulsory: PHY1001, 1002, 1003, 1004
 - Optional: None
- **L2**
 - Compulsory: PHY2001, 2002, 2003, 2004, 2005, 2006
 - Optional: None
- **L3 BSc**
 - Compulsory: PHY3006, 3008, (PHY3010 or PHY3007+PHY3009)
 - Optional: 2 from PHY3001, 3002, 3003, 3004, 3005
- **L3 MSci**
 - Compulsory: PHY3006, 3008, 3009
 - Optional: 3 from PHY3001, 3002, 3003, 3004, 3005
- **L4**
 - Compulsory: PHY4001, 4003, 4004
 - Optional: 4 from PHY4005, 4006, 4007, 4008, 4009, 4010, 4016

Physics with French/Spanish Module Choices

- **L1**
 - Compulsory: PHY1001, 1002, (SPA1101 or FRH1101)
 - Optional: None
- **L2**
 - Compulsory: PHY2001, 2002, 2004, 2006, (SPA2101 or FRH2101)
 - Optional: None
- **Year Abroad**
 - Compulsory: PHY3999
- **L3 BSc**
 - Compulsory: PHY3007, PHY3008, (SPA3101 or FRH3103)
 - Optional: 2 from PHY3001, 3002, 3003, 3004, 3005, 3006, 3009
- **L3 MSci**
 - Compulsory: PHY3008, 3009, (SPA3101 or FRH3103)
 - Optional: 2 from PHY3001, 3002, 3003, 3004, 3005, 3006
- **L4**
 - Compulsory: PHY4001
 - Optional: 6 from PHY4003, 4004, 4005, 4006, 4007, 4008, 4009, 4010, 4016

Theoretical Physics Module Choices

- **L1**
 - Compulsory: PHY1001, PHY1004, MTH1011, MTH1021
 - Optional: None
- **L2**
 - Compulsory: PHY2001, PHY2002, PHY2004, MTH2011, MTH2021, MTH3031
 - Optional: None
- **L3 BSc**
 - Compulsory: MTH3032, 3031, 4331, 4332, AMA3011
 - Optional: 1 from MTH3022, 3023, 3024, 3025
- **L3 MSci**
 - Compulsory: MTH3032, 3031, 4331, 4332, AMA3020
 - Optional: 1 from MTH3022, 3023, 3024, 3025, 4332, 4323
- **L4**
 - Compulsory: AMA4005, MTH4024, 4031, 4331, 4332
 - Optional: 2 from PHY4003,4004,4007,4008,4009,4010,4016
OR 1 from MTH4022, 4024, 4322, 4323

Applied Maths and Physics Module Choices

- **L1**

- Compulsory: PHY1001, PHY1004, MTH1011, MTH1021
- Optional: None

- **L2**

- Compulsory: PHY2001, PHY2004, MTH2011, MTH2021
- Optional: MTH2012, MTH2013, MTH2014, MTH2031, PHY2002, PHY2003, PHY2005

- **L3 BSc**

- Compulsory: AMA3011 or PHY3007
- Optional: at least 2 from PHY3001, 3002, 3003, 3004, 3005, 3006, 3008, 3009
- Optional: at least 2 from MTH3011, 3012, 3021, 3022, 3023, 3024, 3025, 3031, 3032, 4311, 4321, 4322, 4323, 4331, 4332

- **L3 MSci**

- Compulsory: AMA3020 or PHY3008
- Optional: at least 2 from PHY3001, 3002, 3003, 3004, 3005, 3006, 3009
- Optional: at least 2 from MTH3011, 3012, 3021, 3022, 3023, 3024, 3025, 3031, 3032, 4311, 4321, 4322, 4323, 4331, 4332

- **L4**

- PHY4001 + 2 from PHY4003, 4004, 4005, 4006, 4007, 4008, 4009, 4010, 4011, 4016
+2 from MTH4011, 4021, 4022, 4023, 4024, 4031, 4311, 4321, 4322, 4323, 4331, 4332
- OR AMA4005 +4 from PHY4003, 4004, 4005, 4006, 4007, 4008, 4009, 4010, 4016
+2 from MTH4011, 4021, 4022, 4023, 4024, 4031, 4311, 4321, 4322, 4323, 4331, 4332

Note that choices at L3 and L4 have more detailed requirements. Please discuss these with your advisor