

Addendum to the Programme Specification

4424 MPhys Particle Physics with a Research Year Abroad

This Addendum has been produced to highlight the key changes made to the existing Programme Specification as a result of the University's response to the Covid-19 Pandemic. You should read it in conjunction with the relevant Programme Specification from the year you started your programme.

[Programme Specification for entry in 2020-21](#)
[Programme Specification for entry in 2019-20](#)
[Programme Specification for entry in 2018-19](#)

University level information

In view of COVID-19, the University has had to make changes to some elements of programme delivery for 2020-21. These changes have included the method of delivery, such as face-to-face and online, and the number of modules available.

The University aims to provide as much of a face-to-face component to your education as prevailing conditions at the time allow, combined with its new blended approach that will develop active independent and group online learning.

As the COVID-19 pandemic develops, the University's response to this and other issues may likewise need to evolve. The University will consult with student representatives as necessary and appropriate and will communicate changes to you as soon as practicable so that you have the information you need to understand how a change may impact you and what steps you need to take next. The University remains committed to supporting you as you learn.

Programme Information

Changes in Part I and II are not noted here as students will not be registered on this programme until Part III.

RAL Particle Physics Dept, and the three experiments there running the projects (ATLAS, CMS & LHCb), are committed to engage with our placement programme for the 2020-21 academic year, and to offer the students the best possible academic and social experience. In relation to Covid-19 rules in the UK and in Switzerland, there are three possible plans for the placement:

1. Students spend September-January at RAL and move to CERN from February until August with the June-August spell being additional beyond the normal timespan (students will undergo assessment in May and get a degree in July). To have a physical placement at RAL requires the projects to be lab based, as opposed to office based. RAL has large lab spaces where social distancing can be implemented easily. This plan will come with supervisory teams made up by one supervisor in RAL and another in CERN, which will assure the consistency of the project throughout and a seamless transition from RAL to CERN. In these circumstances RAL will take care of sourcing suitable accommodation for students for the entire duration plus both RAL and the University of Southampton will endeavour to secure an accommodation for the stay at CERN. UKLO confirmed that they can arrange accommodation for the arrival of the students from January until August.
2. If movement to CERN is not possible in February, the placement will then be fully based at RAL, in a lab setting. In these circumstances RAL will take care of sourcing suitable accommodation for you for the entire duration of your stay there.

3. If social distancing measures are tightened up by September so that it is not possible to have lab-based work at RAL, projects will run entirely remotely. In this case students would stay in Southampton in their usual setting, but the year-long projects would still be decided and run by RAL (and possibly CERN) supervisors.

Where written examinations are unable to take place due to social distancing measures, an alternative form of assessment will be offered.

Programme Structure

Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note that, in some instances, modules have limited spaces available.

Programme:	MPhys Particle Phy with Yr Abd - 4424
Term:	2020-2021 Academic Session (202021)
Area title:	4424-1 - MParticle Phys-Yr Ab Part 1

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
MATH 1006	Math Method for Phys Sci 1a	15	Yes	Semester 1
MATH 1007	Math Meths for PhysSci 1b	15	Yes	Semester 2
PHYS 1011	Wave, Light and Quanta	10	Yes	Semester 2
PHYS 1013	Energy and Matter	10	Yes	Semester 2
PHYS 1015	Motion and Relativity	10	Yes	Semester 1
PHYS 1017	Physics Skills 1	10	Yes	Semester 1
PHYS 1019	Physics Skills 2	10	Yes	Semester 2
PHYS 1022	Electricity and Magnetism	10	Yes	Semester 1
PHYS 1028	Personal Tutorial (Physics)	0	No	Full Academic Year
PHYS 1201	Phys Skills Prog & Data Analys	15	Yes	Semester 1

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule 1	Select 15 credits		

	<p>Please select a total of 15 credits from the following:</p> <p>Please select an even split of credits overall by Semester including your compulsory modules.</p> <p>There may be other modules across the university that interest you but do not appear in the list below. If you would like to take a module that does not appear in the list below please contact the relevant module leader and inform the Faculty Student Office of your proposed change.</p> <p>It is the responsibility of each student to ensure that the combination of modules they have selected is valid, inc pre-requisites and co-requisites, and meets the requirements of their programme of study. Students changing their selection after the options deadline (end of semester week 2) are responsible for checking there are no timetable clashes</p> <p>Please be aware that you must take at least 90 credits at the appropriate level and satisfy the progression criteria e.g. It is not possible to backtrack optional modules as well as take Language modules.</p>		
LANG XX15	Language Module	15	Show Electives
PHYS 1203	Linear Algebra for Physics	15	Semester 2
PHYS 1004	Introduction to Photonics	15	Semester 2
PHYS 1005	Introduction to Astronomy and Space Science	15	Semester 2

Programme:	MPhys Particle Phy with Yr Abd - 4424
Term:	2020-2021 Academic Session (202021)
Area title:	4424-2 - MParticle Phys-Yr Ab Part 2

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
PHYS 2001	Electromagnetism	15	Yes	Semester 2
PHYS 2003	Quantum Physics	15	Yes	Semester 2
PHYS 2006	Classical Mechanics	15	Yes	Semester 1
PHYS 2022	Physics from Evidence I	15	Yes	Semester 1
PHYS 2023	Wave Physics	15	Yes	Semester 1
PHYS 2024	Statistical Mechanics	15	Yes	Semester 2

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule 1	<p>Select 2 modules</p> <p>Please select a total of 2 modules from the following groups.</p> <p>Please select an even split of credits overall by Semester including your compulsory modules.</p> <p>There may be other modules across the university that interest you but do not appear in the list below. If you would like to take a module that does not appear in the list below please contact the relevant module leader and inform the Faculty Student Office of your proposed change.</p> <p>It is the responsibility of each student to ensure that the combination of modules they have selected is valid, inc pre-requisites and co-requisites, and meets the requirements of their programme of study. Students changing their selection after the options deadline (end of semester week 2) are responsible for checking there are no timetable clashes</p>		

	Please be aware that you must take at least 90credits at the appropriate level and satisfy the progression criteria e.g. It is not possible to backtrack optional modules as well as take Language modules.		
ANTH 2001	Cosmology, Ritual and Belief	15	Semester 2
CHEM 1012	Introduction to Chemistry	15	Semester 1
HUMA 2013	How the Arts Work: A Practical Introduction to Cultural Econ	15	Semester 1
LANG XX15	Language Module	15	Show Electives
MATH 2015	Mathematical Methods for Scientists	15	Semester 1
PHIL 1016	Reason and Argument	15	Semester 1
PHYS 2009	Practical Photonics	15	Semester 2
PHYS 2013	Galaxies	15	Semester 1
PHYS 2015	Introduction to Energy in The Environment	15	Semester 2
SOCI 2003	Gender & Society	15	Semester 2
UOSM 2017	Intercultural Communication in a Global World	15	Semester 2
UOSM 2022	Social Enterprise	15	Semester 1
UOSM 2031	Engineering Replacement Body Parts	15	Semester 2

Programme: MPhys Particle Phy with Yr Abd - 4424

Term: 2020-2021 Academic Session (202021)

Area title: 4424-3 - MParticle Phys-Yr Ab Part 3

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
PHYS 3002	Nuclei & Particles	15	Yes	Semester 2

PHYS 3004 Crystalline Solids	15	Yes	Semester 2
PHYS 3007 Theories of Matter, Space&Time	15	Yes	Semester 1
PHYS 3008 Atomic Physics	15	Yes	Semester 1
PHYS 6003 Advanced Quantum Physics	15	Yes	Semester 1
PHYS 6011 Particle Physics	15	Yes	Semester 2
PHYS 6017 Computer Techniques in Physics	15	No	Semester 2

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule 1	<p>Select 1 module</p> <p>Select 1 module from the following:-</p> <p>Please select an even split of credits overall by Semester including your compulsory modules.</p> <p>There may be other modules across the university that interest you but do not appear in the list below. If you would like to take a module that does not appear in the list below please contact the relevant module leader and inform the Faculty Student Office of your proposed change.</p> <p>It is the responsibility of each student to ensure that the combination of modules they have selected is valid, inc pre-requisites and co-requisites, and meets the requirements of their programme of study. Students changing their selection after the options deadline (end of semester week 2) are responsible for checking there are no timetable clashes</p> <p>Please be aware that you must take at least 90 credits at the appropriate level and satisfy the progression criteria e.g. It is not possible to backtrack optional</p>		

	modules as well as take Language modules.		
HUMA 2013	How the Arts Work: A Practical Introduction to Cultural Econ	15	Semester 1
LANG XX15	Language Module	15	Show Electives
MATH 2015	Mathematical Methods for Scientists	15	Semester 1
MATH 2045	Vector Calculus and Complex Variable	15	Semester 1
MATH 3018	Numerical Methods	15	Semester 1
PHYS 2013	Galaxies	15	Semester 1
PHYS 3003	Light and Matter	15	Semester 1
PHYS 6009	Dissertation	15	Semester 1
PHYS 6012	Coherent Light, Coherent Matter	15	Semester 1
PHYS 6024	Lasers	15	Semester 1
UOSM 2022	Social Enterprise	15	Semester 1

Programme: MPhys Particle Phy with Yr Abd - 4424

Term: 2020-2021 Academic Session (202021)

Area title: 4424-4 - MParticle Phys-Yr Ab Part 4

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
PHYS 6016	Particle Physics Research Pro	120	Yes	Full Academic Year