I'm writing to you about your application to study the Particle Physics MSc(Res) programme in the Department of Physics and Astronomy at the University of Sheffield. As you know, the University will be adjusting how it delivers its courses in the autumn to accommodate the social distancing measures required to combat the coronavirus pandemic. The current plans involve a blend of face-to-face teaching in small groups in Sheffield, where social distancing can be maintained, supported by digital delivery. In this email, I'll explain what this will mean for your studies on this course.

**Course content**

There’s no change to the overall learning outcomes of the course. You'll still cover all of the key skills and important topics, such as the development of the standard model of particle physics, advanced topics in particle physics, electrodynamics and quantum mechanics, and a wide range of transferable skills including academic writing, programming, data analysis skills and oral presentation.

However, to accommodate the new protocols for the 2020-21 academic year, we have made some small adjustments to the structure of MSc(Res) in Particle Physics. The main change is that your first semester courses will, of course, start on October 26 instead of September 28, and this means that you will have to cover your first semester taught courses at a slightly faster rate than usual. To compensate for this, the balance of your project work and the full-year module on Research Skills will be shifted more towards the second semester and the summer. As explained below, there will be extra online tutorials for each of the first semester modules, to help you master the material despite the faster pace.

**Teaching**

Teaching will be spread across the usual two semesters and will start on Monday 26 October. It is not possible to socially distance in a crowded lecture theatre, so we'll be delivering much of our material online. This will be a mixture of (usually 10-20) minute videos introducing you to the material with roughly six hours of videos per week covering both your core and optional modules. These are supported by written material, online quizzes, further reading, exercises, or whatever suits that module best.

Each course has a dedicated webpage (using the Blackboard platform) where all the videos and other resources will be provided, giving you quick and easy access to anything you might need. This will be supported by at least one timetabled interactive class of ~50 minutes per module which will allow you to ask questions, go through derivations, have live interactive quizzes, and do whatever best suits the learning objectives of the module that week.

Although your lecture modules are shared with undergraduate students, in the first semester you will have dedicated, interactive classes for masters students only. This is to account for the earlier undergraduate start date and to provide you with all the support that you need to achieve the learning outcomes of each module. As always, module leaders will be happy to answer any additional questions that you might have.

We will deliver weekly timetabled small group tutorials, which will be held face-to-face if possible, as is it important to have some ‘real’ contact if possible. With small groups of ~5 people we can use our larger teaching rooms and still maintain social distancing. This face-to-face teaching has always taken place across the University’s campus, and this won’t change in 2020-21.

On arrival, you will be assigned a personal tutor who will talk to you regularly throughout your studies,
either in person or online. If you have any academic or personal problems, your personal tutor will help you to find the right support services: do not hesitate to contact them. In addition, all our academic staff will be available as usual to answer questions and talk to you about your studies. It may well not be possible for these sessions to take place in person, but if not you’ll be able to communicate over email, or an audio or video call.

The main focus of your MSc(Res) course is your research project. Depending on how the situation evolves over the next few months, it may be difficult to offer projects that are heavily lab-based. However, much of the work of the particle physics group is software-based data analysis and simulation, and we will be able to offer you a wide range of projects on world-leading particle physics experiments such as ATLAS, T2K, the Fermilab neutrino programme, and the LZ dark matter search.

Learning resources

Most of our learning resources are already available online, and this includes all the core reading for our modules. Our physical libraries will open as soon as it’s safe to do so, and our librarians are committed to providing as full a service as possible, taking into account social distancing requirements and all the latest government advice.

All commercial software you might require is either free or a license is provided by the department/university and will run on up-to-date Windows or Mac operating systems (and probably Linux, although that is not guaranteed). Research software, such as simulation platforms and the data analysis packages of the different experiments, generally runs on Linux (either directly or via a virtual machine that can be installed on a Windows or Mac laptop). You will be given an account on our dedicated group computer network if your project requires it.

Assessment

Coursework assignments will be submitted and marked online. In many cases they can be written using word processing software (Word or LaTeX being the most common), but for some mathematical work it is easiest for it to be written (neatly) longhand and photographed and submitted as an image.

We’re still finalising our plans for exams, but we won’t be holding formal, invigilated exams in the Semester 1 exam period in January/February. Most assessment will likely be through some mixture of short reports/essays, online quizzes (e.g, multiple choice), or ‘open book’ exams where you have a limited time to complete the assessment (usually a few hours), but have access to your notes, textbooks, and the internet to help you. For each module the assessment methods will be chosen to best match the learning objectives of that course.

Costs

The tuition fee for the course will stay the same, and we don’t expect students will incur additional costs as a result of the changes we’re making. You’ll be able to participate in all the online activities using a regular laptop or tablet connected to the internet (although you might find you want a headset or separate webcam depending on your setup).
I hope this email has given you an idea of what to expect when you join us in the autumn. As you’ll be aware, this pandemic is fast-moving and unpredictable, and we might need to make further changes as the situation develops and the University responds to updates in public health guidance. Please be assured that we’ll be approaching the next year as a single departmental family of staff and students together, and we’re committed to ensuring that you’re supported, and that you still receive a world-class university education here at Sheffield.

If you have any questions or concerns, please get in touch with me on d.costanzo@sheffield.ac.uk.

**Learning support**

Please also let either Prof. David Mowbray (d.mowbray@sheffield.ac.uk) or Dr Katherine Inskip (k.inskip@sheffield.ac.uk) know if you have any medical or personal circumstances that might affect how you’re able to participate next year.

**Further information**

Please keep looking out for emails from the University and checking our frequently asked questions, which are updated regularly with all the latest developments. We also have some on demand content from our PGT on-line open days, which you might find useful. International offer holders can also access the international offer holders hub.

I hope you enjoy what’s left of the summer and stay safe,

Best wishes
Professor Davide Costanzo
MSc(Res) Particle Physics course director
Department of Physics and Astronomy