

Before we start ...

Please complete the short
pre-masterclass survey



<https://app.onlinesurveys.jisc.ac.uk/s/liverpool/2026-particle-physics-masterclass-pre-questionnaire-2026>

Welcome

Carl Gwilliam & Saskia Charity



UNIVERSITY OF
LIVERPOOL

Liverpool
Particle Physics
Masterclass

2026

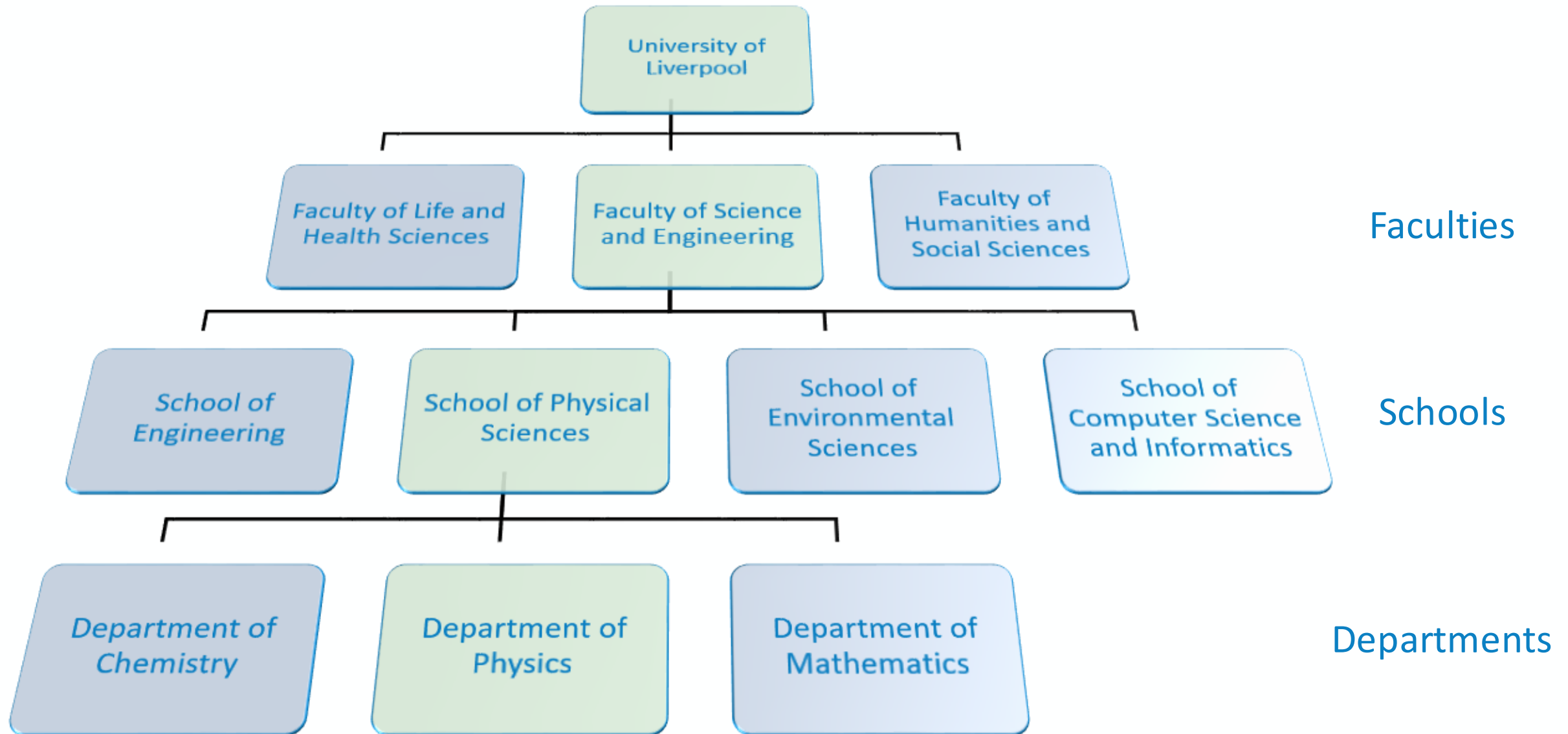
University of Liverpool

- Large research-orientated Russell group university
 - ≈ 25,000 students enrolled
- Since 1881, we've been at the forefront of world-class research and education
 - Ranked in the top 150 universities in the world and 19th in the UK
 - Known for our cutting-edge facilities and relentless pursuit of excellence and achievement



<https://www.liverpool.ac.uk>

Science and Engineering



Department of Physics

- We are one of the best physics departments in the UK.
 - Ranked in the top 200 physics departments worldwide and top 10 UG degrees in UK
 - Collaborating with leading institutes and laboratories around the world



Physics Education
Research

Accelerator
Physics

Nuclear
Physics

Condensed
Matter Physics

Particle
Physics

- Be a particle physicist for the day!
 - Today is about getting a taste of what it is like to do real physics research
 - In one of the largest particle physics groups in the country

Schedule

- Morning (LT B + GFlex)
 - Introductory lectures
 - Interactive workshop
 - Lab tours
- Lunch
 - 3 different stations
 - Please check group
 - Chat to our UG students
- Afternoon (PCTC + LT B)
 - LHCb activity
 - Videoconference with CERN
- Please follow the seating plans
 - Overview in the teacher pack and on the door of the rooms
 - Individual signs on each area

09:30	→ 10:00	Arrival and registration	⌚ 30m 📍 Foyer (Central Teaching Hub)
		Coffee provided	
10:00	→ 11:00	Introductory Lectures	📍 LT B (Liverpool Central Teachi...)
10:00		Welcome	⌚ 10m
		Welcome and safety briefing Speaker: Carl Gwilliam	
10:10		Introduction to Particle Physics	⌚ 40m
		Speaker: Saskia Charity	
10:50		Comfort break and move to GFlex	
11:00	→ 12:00	Interactive activity and lab tours	
11:00		Interactive workshop	⌚ 1h 📍 G-FLEX (Liverpool Central Tea...)
11:00		Lab tours	⌚ 1h
		Groups will rotate between the lab tour and the interactive session. Lab tours are 20 minutes long.	
12:00	→ 13:00	Lunch (please check your group)	
		Lunch is provided. Undergraduate students from UoL will attend to chat about life as a Liverpool Physics student. A range of particle physics built at Liverpool will be on display.	
13:00	→ 15:00	LHCb computing activity	📍 PCTC (Liverpool Central Teac...)
13:00		Intro to LHCb activity	⌚ 15m
		Speaker: David Hutchcroft (University of Liverpool)	
13:15		LHCb computing activity	⌚ 1h 35m
14:50		Comfort break and move to Lecture Theatre B	
15:00	→ 16:31	CERN Videoconference and Closeout	📍 LT B (Central Teaching Hub)
15:00		Videoconference with CERN	⌚ 1h
16:00		Feedback and closeout	⌚ 30m
16:30		Depart	⌚ 1m

Venues

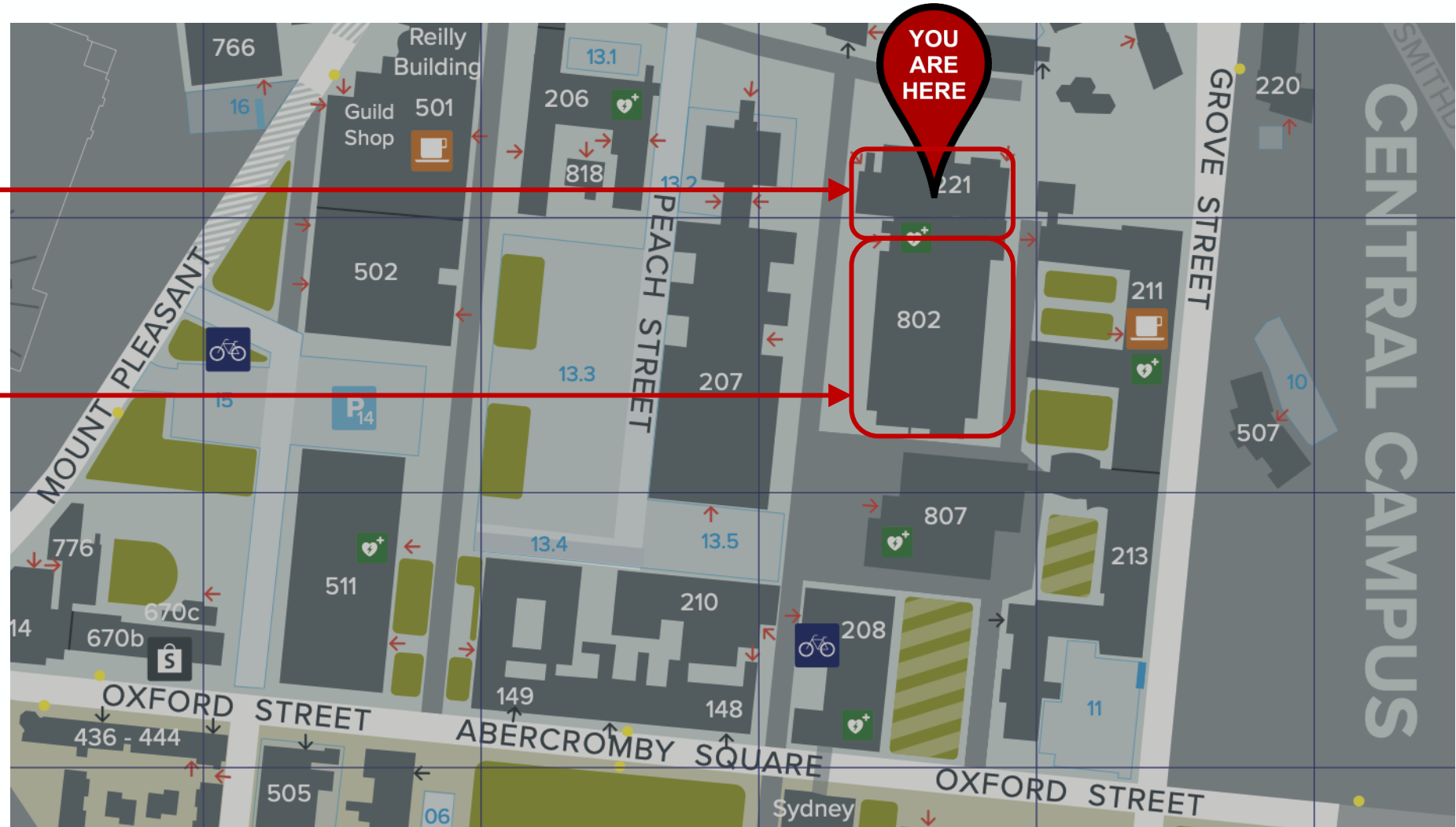
- All activities will be in two adjoining buildings

- Central Teaching Hub

- Lecture theatre B

- Central Teaching Lab

- G flex
- PC Teaching Suite



Safety

- Follow instructions from the demonstrators
 - At all times
- Do not take bags or coats into the PC class or labs
 - Leave them in the lockers provided if not done already
 - Remember to collect them before you leave
- In case a fire alarm sounds
 - Stop what you are doing immediately
 - Exit through the nearest exit
 - Once outside, wait at the assembly points
- If you have questions at any point
 - Please ask a member of UoL staff
- Building specific details on subsequent slides ...
 - Michael Jones, building manager and all laboratory technicians are first aid trained



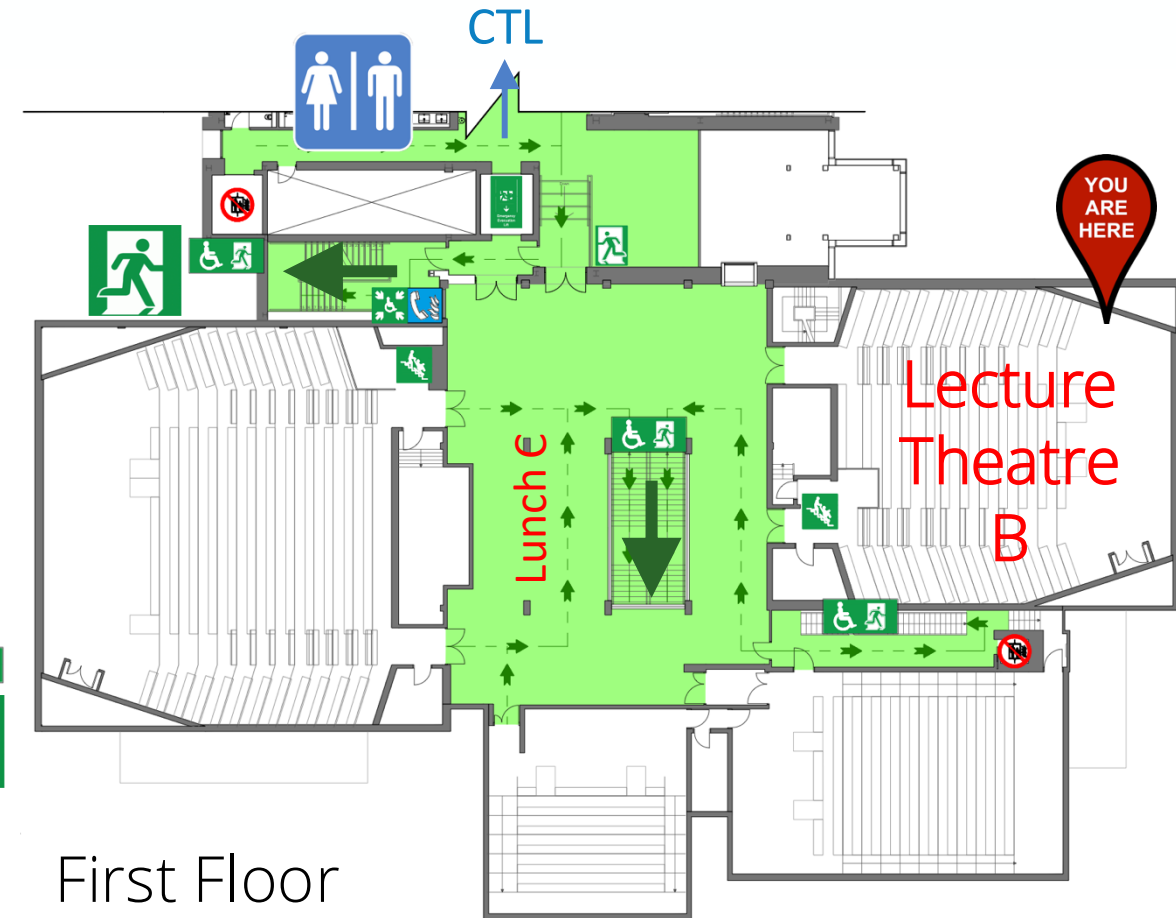
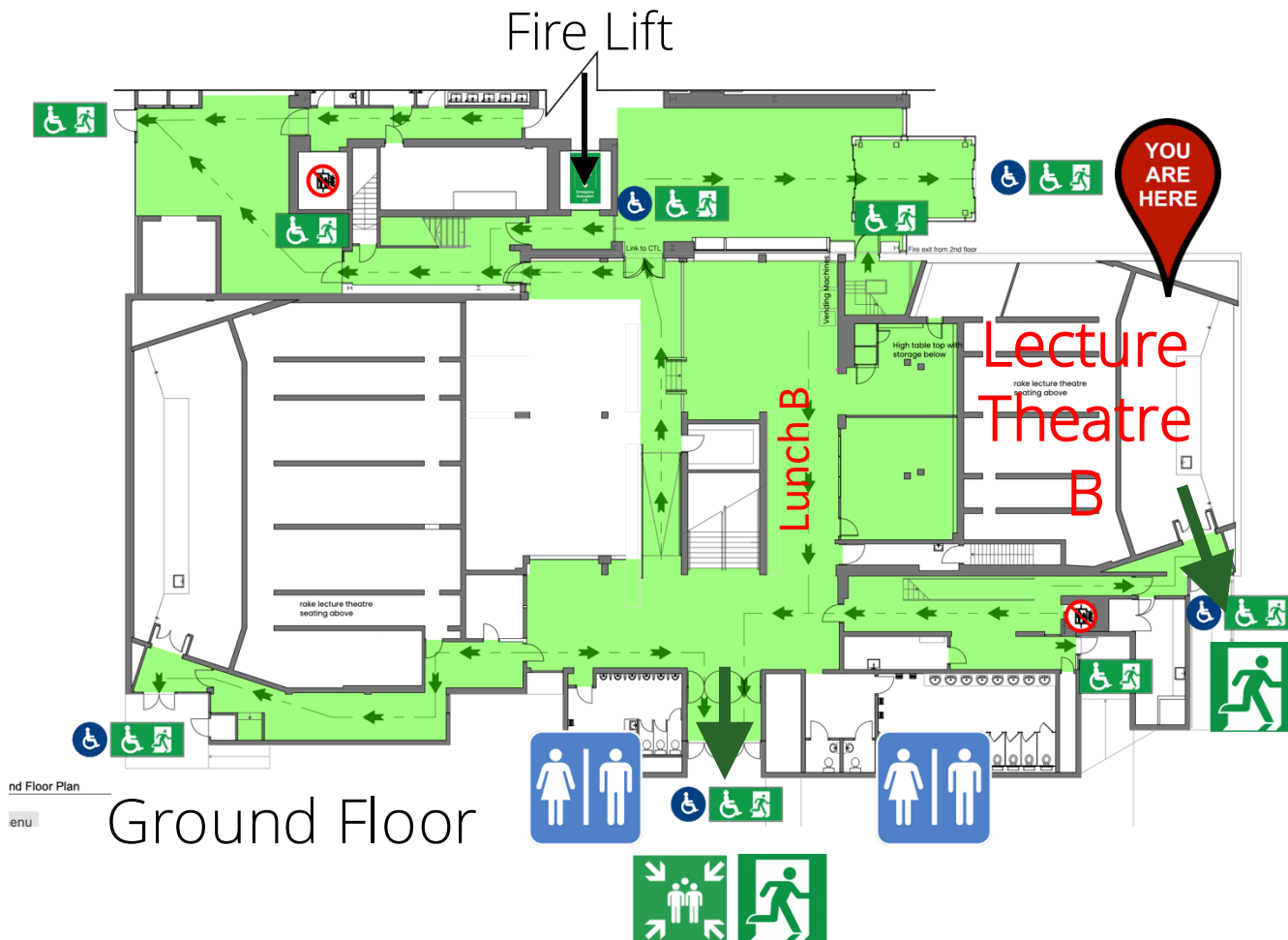
Central Teaching Hub (CTH)

- Emergency Exit

- Exit through front of lecture theatre or via back and then out downstairs via main entrance or CTL
- Assembly point is outside main entrance

- Toilets

- Downstairs, either side of main entrance
- This floor just through into CTL



Central Teaching Lab (CTL)

- Emergency Exit

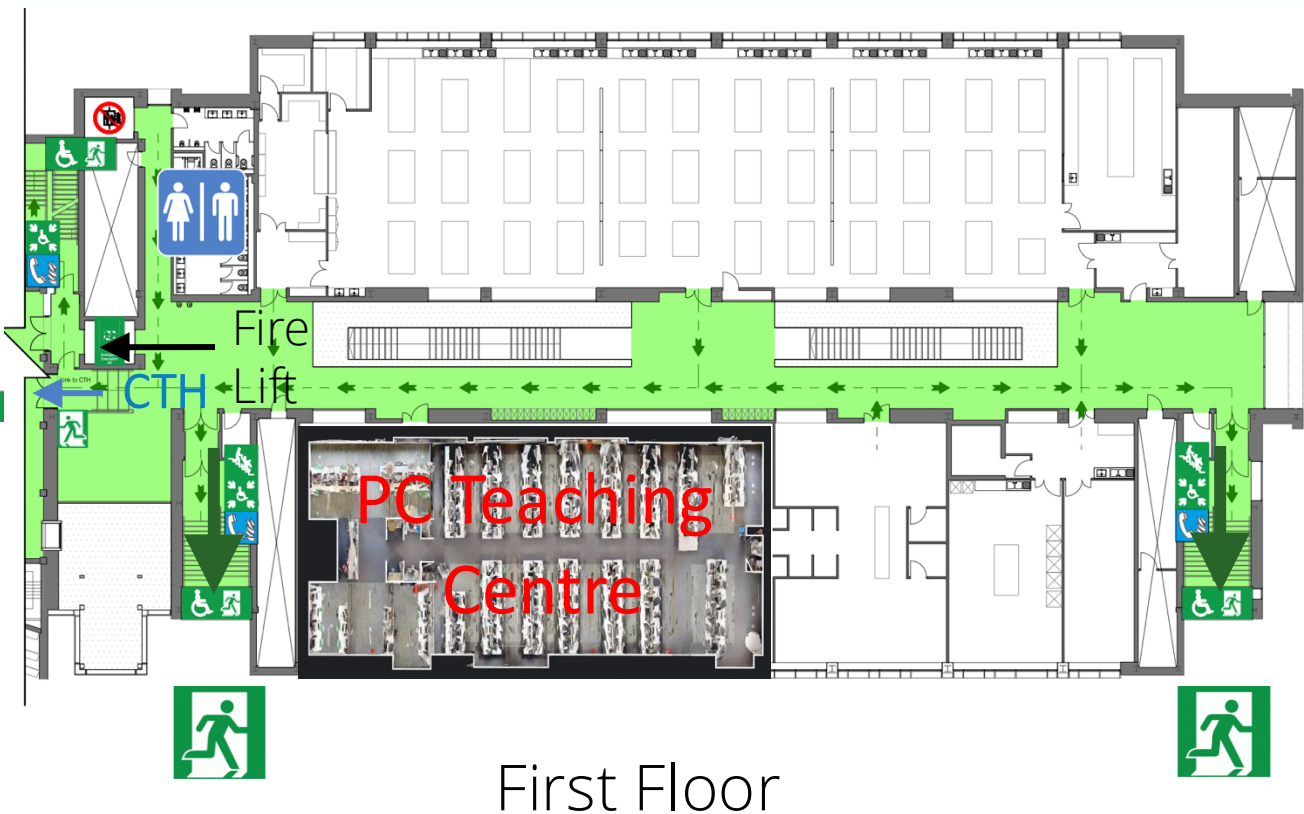
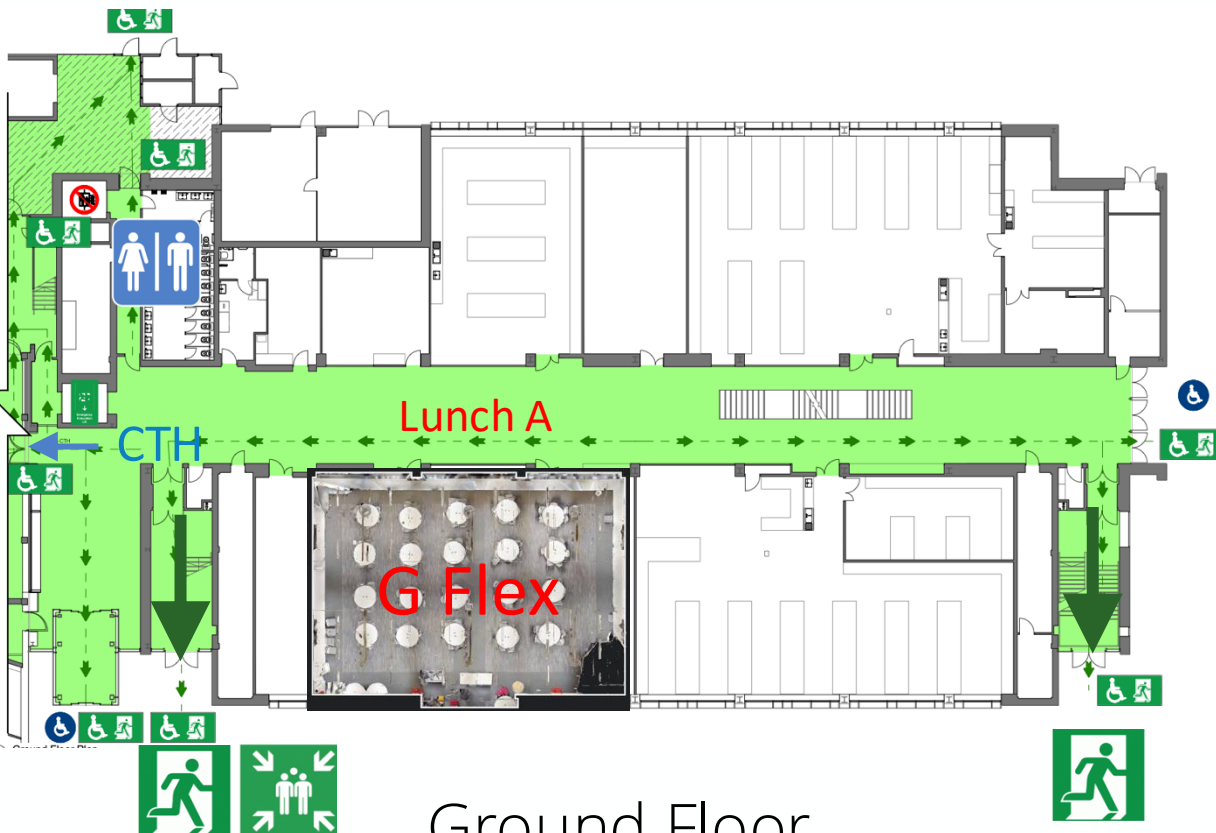
- Exit through stairwell either end and out corresponding exit (or through to CTH)
- Assembly point is outside main entrance

- Toilets

Opposite, by the lift and across from the stairs

- Lockers

If not done so, please put coats/bags in lockers (either side of corridor) before going into to GFlex



Code of Conduct

- We will not accept behaviour which is unkind, upsetting or excludes any person or group of people.
 - If what you're doing is making someone feel uncomfortable, that is enough reason to stop doing it.
- During the Masterclass you should:
 - Be kind, respectful and inclusive to everyone
 - Listen and respect each other's views and ideas
 - Use welcoming and inclusive language
 - Treat everyone equally
- Everyone has a responsibility to help keep Masterclasses safe for all. This means:
 - Don't take and share pictures, video or audio which includes students from other schools or colleges
 - Adults should not share personal contact details with students under 18 (or vice versa) or connect with them on social media.
 - If something needs to be shared this should go via the Masterclass organisers