First Year (Part IA) Physics 2020/21

Welcome to the Cavendish Laboratory, home of the Department of Physics.

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*Director of Undergraduate Education in Physics*

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Cavendish Laboratory
Welcome to Cambridge Physics

• We aim to provide a course which
  • is accessible to all students;
  • gives you a chance to develop the key mathematical and practical skills of physics, for use in 2nd year Physics or other NST courses;
  • exposes you to some of the exciting fundamental ideas of physics;
  • will challenge and hopefully interest all of you

• We want you to enjoy our course
How to stay informed

- **TIS – Teaching Information System:**
  https://www-teach.phy.cam.ac.uk/

- **https://www.phy.cam.ac.uk/students/teaching/teaching2021**
  (linked from main webpage)

- Physics Course Handbook – to be updated (delayed 😞)
- Director of Studies
- Helen Marshall (teaching office)
- Ulrich Schneider (DoUE)
Teaching Info System (TIS) – main web resource

Department of Physics Teaching Information System

All teaching
- Consultative Committee
- Teaching Administration
- Teaching Committee
- Teaching Staff

Other TIS Options
- Browse All Courses
- Course Synopses
- Search Handouts
- Search Past Papers

Projects for approval 5
- Research Review for approval 1
- Course synopses for approval 2

Your teaching for 2016-17

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Teaching includes all lecturing, supervising, assessment, course organisation, projects/reviews and head-of-class duties.

Consultative Committee

Teaching Committee

Other teaching jobs

MIT

Email Test Chief
Lecture Courses

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Lectures will be available on Moodle.

Materials, **example sheets**, and past exam papers are available online on the Physics Teaching Information System (TIS)
The IA Physics Course: Beyond Lectures

- Supported by your college-organised weekly *supervisions*

- Assessed by a **3-hour exam paper** in June (75 marks)
  Details tbd – we hope to be able to hold the exam in-person.

- Course contains also Practical Laboratory Work – see later

- The course prepares you for Part IB Physics A/B (along with IA Maths course).
Enjoy the practicals

New grading system:
Standard credit for practicals

Demonstrators will mark out of 20 – this is formative assessment only.

Head of class writeups are marked - summative.

→ No need to chase every mark, focus on understanding and building skills and intuition!
Physics is an Experimental Science!

LIGO: Laser Interferometer Gravitational-Wave Observatory

End-station @ 4 km
Mid-station @ 2 km
4 km (2.5 mi.)
Physics is an Experimental Science!
Scientific Computing Course

Short course introducing computing from a scientific perspective:

• Taught through practical sessions with short lecture intro
• Uses Python
• Sessions on **weeks 3, 4, 5 and 6 of Michaelmas & Lent terms**
• Practical sessions will run on Zoom.
• Supports all your courses, and forms ~7% of Part IA Maths mark.

What you need to do now (as per today’s email):

• Book your choice of practical day on Moodle
If you are finding the course too slow/too easy...

• Good for you, *but don’t be complacent*

• Our intention is to start slowly and allow students time to adapt to University study – you come from many different educational backgrounds

• You can do the Additional Examples provided by each lecturer for your supervisions

• Ask your college Supervisor for advice – for example on practising some Tripos (exam) questions, or further directed reading/self study.

• *Be patient – New material in second term*...
If you are finding the course very challenging...

• Don’t panic!

• It’s not like school anymore… *(70% is a First class mark)*
  
  • work steadily and conscientiously – *use your time well*

  • but “perfect is the enemy of good”

• Talk to your college supervisor, and possibly your college Director of Studies, for advice on study skills, time management, and how to tackle the problems.
Disabilities

• If you have, or think you may have, a disability that affects your learning, you are strongly encouraged to
  • Talk to your college tutor
  • Contact the Disability Resource Centre
  • Let us know via the TIS/email to undergraduate office
  • If we don’t know, we can’t make suitable accommodation.
Collaboration, cheating and plagiarism

• It is unacceptable to:
  • cheat during oral or written tests
  • copy the work of others and submit as your own
  • falsify and/or invent experimental data

The Golden rule:

Examiners must be in no doubt as to which parts of the submitted work are the candidate's own original work and which are the rightful property of someone else.
Lectures and Handouts

• **Lectures**: Prerecorded and available on Moodle
  → Use the flexibility (e.g. pause & rewind)
  → Aim to stick to prescribed number of lectures per week

• **Handouts** for lectures are often provided **to you** printed (Foyer in front of Pippard) and via TIS.

These recordings and materials are provided to you **personally** as part of your course, but **copyright law requires that you do not share these**.
Cavendish – Bragg building – Ground Floor

Lunch Breaks
Microwaves & Vending machines

Handouts

Enter practicals from here
#STAYSAFECAMBRIDGEUNI

- Frequently clean your hands
- Wear a face covering unless you can keep 2m distance
- Keep a distance of 2m wherever possible
- Follow the rules of each building
- If you have any symptoms get a test
- If you test positive self isolate for 10 days

If you have symptoms get a test by calling: 01223 216767
cam.ac.uk/staysafecambridgeuni
'No social distancing': US college towns close bars as Covid-19 cases surge

Rise in campus infections from Missouri to Utah, and Alabama to Iowa forces local authorities to close bars and mandate masks

COVID-19 hot spots such as frat parties, bars could ruin fall 2020 college reopening plans

→ Practicals and Supervisions unlikely to be main driver of transmission.
Find your practical Slot
COVID - Safety precautions in practical

• **>2m social distancing** – benches suitably arranged

• **Upgraded and verified ventilation**

• **Kit to be cleaned between sessions**

• Interaction with demonstrators:
  (close working, but typically <15min per interaction)
  • Demonstrators to wear Type IIR surgical mask and potentially visor
  • Demonstrators to disinfect hands or gloves between interactions

• One-way system for getting in and out of practicals

• Hand gel to be provided

• **Strongly recommended to wear face covering during practicals**
Self-isolating student or staff

• **DO NOT COME TO DEPARTMENT WHEN SELF-ISOLATING**

• **Please notify us when you have to self-isolate!**

selfisolating@phy.cam.ac.uk

→ We will aim to enable you to do the practical remotely or to reschedule your practicals.
The Cavendish Community Forum (CCF)

The Cavendish Community Forum is a group setup to discuss **ED&I issues** affecting the experience of **all users** of the Cavendish Laboratory.

Many dedicated and enthusiastic members of our community are involved with our aim to
- understand factors contributing to an environment that may be less welcoming to underrepresented groups,
- remove barriers to the creation of an equal, representative, and inclusive community.

We have had great success towards growing a more gender-balanced Department over the past decade and now turn more attention to other underrepresented groups.

More info can be found at [https://www.phy.cam.ac.uk/intranet/info/cavendishcommunityforum](https://www.phy.cam.ac.uk/intranet/info/cavendishcommunityforum)

If you feel you can contribute to this effort, or would like to raise a topic for discussion, please contact the CCF chair, Tina Potter (cp594@cam.ac.uk).
Further groups

Cavendish Inspiring Womxn
Cavendish Inspiring Womxn (CiW) is a student-led group from the University of Cambridge dedicated to promoting and supporting the success of women and non-binary people pursuing studies and careers in physics.

https://www.cavendishinspiringwomxn.co.uk/.

Pride in STEM / Prism
https://www.cam.ac.uk/lgbtstem19
https://twitter.com/CavendishPrism

Building a Network for BAME students in physics
Together with the CCF and the CUPS we will hold dedicated meetings this term to enable networking and to provide a space to reflect on the discussions in the wake of Black Lives Matter. Details to follow.
How to stay informed

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We hope you enjoy our course!

i’m not telling you it’s going to be easy, i’m telling you it’s going to be worth it