



Advanced Laboratory Introductory Session 2026/27

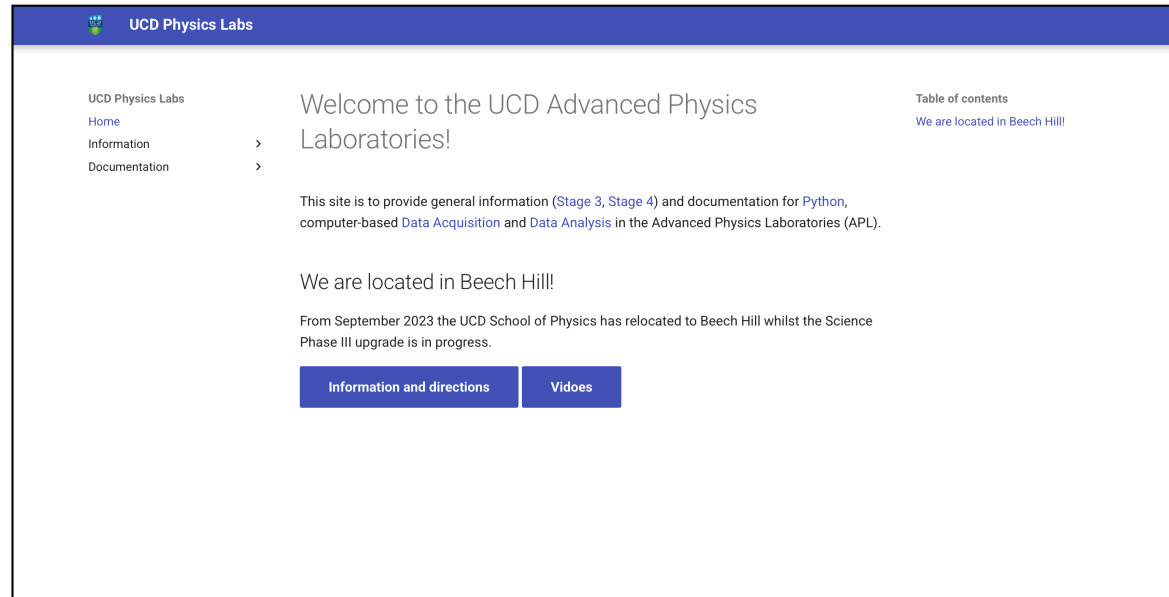
APL Stage 4 Introductory Session

8th September 2026

Welcome back!



Advanced Laboratory Introductory Session 2026/27



Advanced Laboratories are located in Beech Hill on the ground and first floors of the B-wing:

- Rooms B001, B002, B003, B004 and B005 (Ground Floor)
- Rooms B103 (Paul Hanratty & Joe Branson's Offices) and B105 (First Floor)

Reminder: When accessing the labs on the first floor, do so using the stairs at the back of the labs on the ground floor to avoid going through classroom in B106-BH, as lectures might be taking place!



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Points of contact:

- Date to move back to SCN to be determined
- BH Building closes at 21:30, so you must leave by then
- Please let us know if there are any issues with schedules and commuting between UCD main campus and BH





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Points of contact:

- Main Office (B109–BH)
- Bairbre Fox, School Manager (A109–BH)
- Prof. Dominic Zerulla, HOS Office (A108–BH)
- Assoc. Prof. León Vintró, Stage 4 teaching team coordinator (A002–BH; N033 SCN)
- Prof. Quinn, Dr. McCormack and Assoc. Prof. Mitchell (Programme Directors for PASS, SH and TP)





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The following laboratories are Year Long modules (run over Autumn and Spring trimesters):

PHYC 40970: Advanced Lab. II (15 ECTS)

PHYC 40600: Astronomy & Astrophysics Lab II (15 ECTS)

The following laboratories must be completed in a single trimester:

PHYC 40330: Advanced Laboratory for TP III (5 ECTS)

PHYC 40690: Advanced Physics Laboratory (5 ECTS)



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Advanced Physics Laboratory Philosophy:

- Educational environment.
- Aimed to develop your critical thinking and problem-solving skills.
- Not only about report, but also demonstrating understanding of the experiment, including set-up, execution and data analysis.
- Interaction with staff & demonstrators is important.
- Work must be your own (plagiarism) – if a report is found to be plagiarised from another one, this will be investigated and could result in **both** reports being marked as zero.

Everything you include should be your own work. AI can only be used for limited support. You must be able to explain and defend everything written in your reports (and code!) during the discussions with staff. Your ability to do so will be part of the grading for the experiment.



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AI Usage

Students may use generative AI tools for limited support in this module.

You may use AI for planning and researching your experimental work, debugging your own code or refining the language of text you alone have authored, but not to generate text, interpret experimental results, formulate scientific conclusions or write the code required for data acquisition or computational physics projects.

Students remain fully responsible for the accuracy and reliability of their learning, and should be able to demonstrate their understanding of the experimental work undertaken during the discussions with staff which will follow each experiment. Specifically, students are expected to be able to explain and justify the theory, procedures, analysis and conclusions provided in their laboratory reports, as well as the structure and workings of any code used.

Any use of AI must be cited appropriately, including details of the tools used and the prompts submitted.



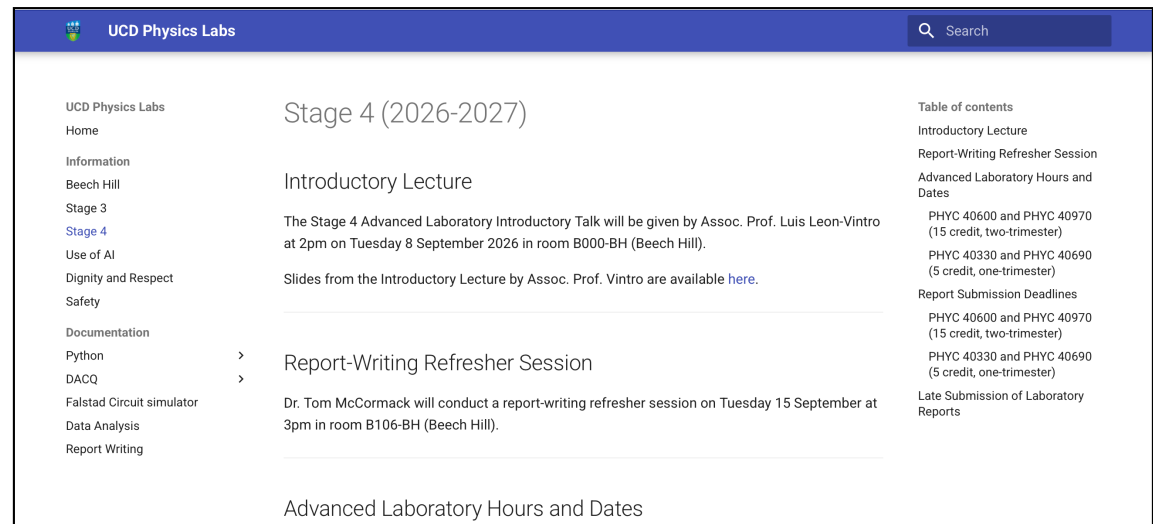
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WEBSITE URL FOR ADVANCED PHYSICS LABORATORY

Make use of the APL website – let us know of any issues!

<https://physicslabs.ucd.ie>

- General information
- Deadlines
- Slides of presentations
- Python programming
- Data acquisition
- Data analysis



Note: please let us know if you find a broken link, etc.



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Workload:

- PHYC 40970/40600: 340 hrs (~12 hrs/week)
- PHYC 40330/40690: 110 hrs (~6 hrs/week)

Laboratory hours:

- Tuesdays, Wednesdays & Thursdays 2–6 pm
Expected to be present at assigned times.

Staff:

Module coordinators:

- Prof. Quinn (PHYC40600)
- Dr. McCormack (PHYC40970)
- Assoc. Prof. León VINTRÓ (PHYC40330)

Other staff involved:

- Dr. Hayden
- Prof. Lobaskin
(Computational)
- Prof. Vohnsen, Assoc. Prof. Benedetto

Technical staff:

- Mr. Hanratty, Dr. Branson



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John
Quinn



Luis
León Vintró



Tom
McCormack



Paddy
Hayden



Antonio
Benedetto



Vladimir
Lobaskin



Brian
Vohnsen



Aoife
Ivory



Joe
Branson

Paul
Hanratty



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Schedule (strict deadlines for each trimester) :

PHYC 40970: (SH)	Trimester 1: 4 experiments Trimester 2: 2 experiments
PHYC 40600: (PASS)	Trimester 1: 4 experiments Trimester 2: 2 experiments
PHYC 40330/40690 (TP)	Trimester 1/2: 2 experiments

For PHYC40970 and PHYC40600, Reports 1 & 2 must be submitted by 5pm on Tuesday, 27th October. Report 3 and all experimental work for experiment 4 must be completed before end of term. Report 4 due by 5pm on Monday 18th January 2027. Reports 5 & 6 due by 5pm on Monday 8th March 2027 (Labs close on Thursday 25th February).

This does not apply to PHYC40330/40690, which are single trimester modules. For these, reports 1 & 2 due by 5pm on Monday 9th November (Trimester 1) or 5pm on Tuesday 30th March (Trimester 2). For trimester 1, Labs close on Thursday 29th October.



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Remember that there you will need ~3 weeks per experiment.
Manage your time wisely and do not leave things to the last week!



Trimester 1

Tuesday 8th Sept – **Thursday 26th November** (Labs close PASS/SH)
Stage 4 student presentations start Wednesday 30th September
(Week 4) Dr. McCormack will contact with details on format,
schedule, etc... (scheduled 2–3pm on Wednesdays B106 BH)

***Thursday 29th October** – Lab closes for PHYC40330/40690
All reports due Monday 9th November*

Trimester 2

Labs re-open: Tuesday 19th January

Labs close for PASS/SH students: **Thursday 25th February**

All reports (PASS/SH) due Monday 8th March

***Friday 12th March** – Lab closes for PHYC40330/40690
All reports due Tuesday 30th March 2027*



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Reports:

- All reports are to be typed (do not forget to append Jupyter notebooks and program code to the end of your report – Be careful with Jupyter Notebook PDF appendices and make sure that are not all on one page!)
- An electronic version of each report in a single pdf document is to be submitted through Brightspace (originality checker will run on it). Paul will receive a notification that you have submitted and he will send you your next lab.
- Please remember to include an ‘Analysis’ section in your report and do not relegate it to an undocumented Python appendix!
- Each experiment and report to be completed (submitted) before starting next one.
- We do not need large reports – brief, factual, informative reports which are clear and understandable are preferred.



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Late Submission of Laboratory Reports:

Effective September 2026, UCD has introduced the ***Additional Considerations for Assessment*** Policy.

For more information see:

<https://www.ucd.ie/registry/projects/adcons/#h820557>

https://hub.ucd.ie/usis/!W_HU_MENU.P_PUBLISH?p_tag=GD-DOCLAND&ID=301

For the labs, year-long modules will have two permitted self-certified five-working-day extensions (each with an additional five-day one-grade penalty permitted). One-trimester modules there will be one permitted self-certified extension).

However, in all cases, you will not be assigned your next laboratory until the report for the previous one has been submitted.



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The new policy in a nutshell

From the 2026–27 academic year, a new unified policy will replace both the Extenuating Circumstances and Late Submission of Coursework policies. This new policy introduces **three clear support pathways** for students facing temporary or ongoing difficulties that impact their assessments.

Self-Declare for Extension	Certified Additional Considerations	Retrospective Applications
- Students can request up to 5 working days to complete eligible* assessment tasks, without needing documentation or academic approval. - Designed for short-term issues, students simply notify the university via SISWeb before the submission deadline. - With the approval of the Module Coordinator, this may be extended to an additional 5-day extension with a one-grade penalty. <i>*Extension option will only automatically apply to certain assessment types that are included: Assignment (including essay/poster), Portfolio, Reflective Assignment, Report(s) and Individual Project. However, a module coordinator will be opt in to this option for other Assessment Types.</i>	- For longer-term or more serious circumstances (e.g. bereavement, health issues, caregiving responsibilities). - Students submit supporting documentation, which their Governing Board reviews. The Board may approve a variety of outcomes such as a local solution, extension, IX and/or WN grade.	- For cases where students were unable to apply on time due to exceptional circumstances. - Reviewed case-by-case with clear criteria.

Beyond 5 days (+5 days with one grade penalty) or after using all your allowed extensions:

- Late work not accepted/graded
- Local solutions not permitted
- Application (with supporting documentation) and approval needed by Board



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Requirements:

- Statement of intent must be completed before experiment and submitted electronically to Paul and staff member in charge of the experiment
- Keep records of experiments in a dedicated notebook
- Keep a copy of all files relating to laboratory work (must be available at end of year) – make frequent backups to avoid data loss!
- Sign in and out (Google form via the QR codes posted in labs)
- All reports should be typed and submitted **electronically** as a single pdf file (do not forget to append all iPython notebooks and program code to the end of reports) through *Bright Space*.
- Complete experiment (and report) before starting next one
- If there is no activity on an experiment for two weeks, the experiment might be allocated to someone else



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Statement of Intent (SOI)



Statement of Intent

UCD School of Physics
Advanced Laboratories

Name:

Experiment:

Date:

The Statement of Intent should address the following four points about the experiment you are about to undertake:

1. What is the aim of the experiment?
2. What measurements will be made and how?
3. How will the final result be obtained from the experimental data?
4. What are the main safety concerns with the experiment and precautions that should be taken?

The statement should be reviewed by a member of staff before you begin the experiment.

Motivation:

- While writing reports students realise what they should have done
- Know what you have to do in advance and make a plan!
- Safety

Equipment:

- You should not use any equipment until you have discussed experiment with a member of staff
- It is ok (expected) to look at the equipment before writing SOI. Handout not always necessarily reflect the equipment set up!

The IOP requested student SOI as part of their accreditation process



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Laboratory Safety

- Safety in the lab is of the utmost importance
- People
- Equipment
- Safety concerns need to be thought about in advance and included in the SOI.
- Please think critically about the safety aspects before using any equipment (ongoing).
- Equipment: we frequently have blow fuses – please know how to wire up a basic circuit including how to put an ammeter in a circuit!
- Any experiment requiring the use of LN2 will need prior training in how to handle cryogenic liquids.



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Assessment:

- Commitment, quality of work, understanding & practical skills
- Experiments are designed to be extendable – show initiative in pursuing experiments beyond specified instructions
- Assessment based on reports and staff judgement + discussions after each experiment (to be arranged with staff)

Assessment breakdown: 80% laboratory report and discussion with staff; 20% for general continuous assessment mark by the staff

Please remember that one experiment is worth 2.5 ECTS (50–75 hr of effort). This is 50% that of a typical lecture module. Budget your time and effort accordingly!



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Other information:

- There will be a refresher 'Report Writing' session at 3pm on Tuesday 15th September (B106 BH)
- Class reps for each degree programme (SH, PASS, TP) for Teaching Team Meetings (one meeting per semester)
- Behaviour – treat labs as work environment
- Keys for lockers / Provide your name if interested / Could take some time to organise
- You should have received your first assigned lab. If not, please contact Paul Hanratty.



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OTHER IMPORTANT INFORMATION:

- Labs are not open on Mondays and Fridays.
- SH Projects done in separate module (PHYC40960).
- Laboratory report discussion held after each experiment (same as in Stage 3).
- Website url for the labs: <https://physicslabs.ucd.ie>
- Google Form sign in and sign out via the QR codes posted in the lab – required for attendance
- New email notification list (one way from staff to students) UCD-PHYSICSLABS4@listserv.heanet.ie – contact person: J. Quinn



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OTHER IMPORTANT INFORMATION:

- While in the lab, try make the best use of your time – get the experiment set up and get the data in a planned and efficient way.
- Work from first week of term and do not leave experiments to the end!
- Please keep in contact and enjoy the labs.



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- The Advanced Physics Laboratories aim to provide an educational environment with the highest standards of behaviour and ethics, free of bias and any forms of harassment or bullying.
- You should familiarise yourself with and abide by the UCD policies on Student Conduct and Academic Integrity (<https://www.ucd.ie/secca/studentconduct/>)

UCD Dignity and Respect Support Service

Supporting any student, employee or UCD community member who is impacted by issues of **bullying, harassment or sexual misconduct**

- Confidential and proactive support
- Specialist information and guidance
- Support to explore informal and formal resolution options
- Ongoing aftercare support
- Drop in or make an appointment

L532, Level 5 James Joyce Library Building

respect@ucd.ie ucd.ie/dignityandrespect



**LABS ARE NOW OPEN.
START WORKING TODAY!**