

Guidance for meeting IOP Degree Accreditation requirements under social distancing policies due to COVID-19

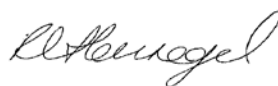
The following guidance is intended to clarify the requirements for Degree Accreditation. It should help departments with degrees accredited by the IOP to adhere to the requirements during the COVID-19 pandemic and consequent disruption to programmes in order to ensure that those programmes remain accredited. **It is valid during the 2020/21 academic year.**

Departments will be aware that the current accreditation scheme has been reviewed and the revised scheme is expected to be in place for academic year 2021/22. The guidance presented here takes account of the new requirements so that departments are not being required to maintain aspects of the current scheme that will no longer apply after the coming academic year. This is being done as we are aware that departments are taking the opportunity to review their provision and some changes made in response to Covid-19 may be retained in future years. The revised requirements are not yet formally in effect, and any degree that continues to meet the current requirements will remain accredited.

The Institute wishes to reassure departments once more that it understands the difficulties posed by the pandemic and is likely to be sympathetic to consequent temporary lapses in adherence to the requirements, examples of which are detailed in the guidance. Any departments concerned about their own adaptations, especially if they conflict with anything in this guidance, must contact accreditation@iop.org for individual advice.



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1. TEACHING

- a. **Degrees should continue to cover the breadth and depth of the discipline.**
- b. **All degrees must cover the core areas listed in the QAA Benchmark Statement.**

The areas that must be covered are

- Electromagnetism;
- quantum and classical mechanics;
- statistical physics and thermodynamics;
- wave phenomena and
- properties of matter.

Pre-recorded lectures, synchronous online lectures, or a combination, may be used to deliver material. If using synchronous presentation departments should ensure they are meeting the needs of students that may have caring or childcare responsibilities.

It is understood that changes to teaching methods may require a reduction in taught content. This is acceptable providing points 1a and 1b are met, and the revised requirements will not need as much taught content as at present. It may also be necessary in order to give sufficient focus to the development of essential transferable skills.

Students that missed some elements of the *Core of Physics* in 2019/20 should not be required to make up these areas unless required to meet point 1b, or the material is a requirement for forthcoming modules.

Where placements or study abroad have been, or may be, disrupted and students wish to switch to another degree, this can be allowed even if some elements of core coverage could be missed as a result, providing the overall programme learning outcomes will have been met.

The Institute recommends that departments ask for student feedback more often than under normal circumstances in order to adjust teaching methods as necessary.

2. ASSESSMENT AND CLASSIFICATION

- a. **Appropriate assessment of learning outcomes must still be carried out for students in all years of study. Departments should ensure they are fully prepared for the possibility that they may not be able to hold examinations as usual.**

- b. All assessment procedures must give a level of challenge, and require a level of achievement of learning outcomes, which are commensurate with those of assessments taken under normal conditions.**
- c. Summative assessments must be administered in a way that minimises their vulnerability to collusion or contract cheating.**
- d. The questions, rubric and allowed time for examinations which are not invigilated, i.e. online examinations taken from home, must be suitably designed to be robust against cheating by referring to non-approved materials.**
- e. Students should be given specimen assessments – equivalent to the provision of past papers – where the assessment type is new.**
- f. Classification of the degree must include contributions from at least the final two years of study.**
- g. Departments should have mechanisms in place to avoid grade inflation and ensure that the quality and standards of the final degree awarded are maintained.**
- h. Progression rules are for each department to decide, but use of compensation and/or condonement should not compromise the attainment of the overall programme learning outcomes.**

Examples of measures to ensure that non-invigilated examinations are robust against cheating include the following:

- Removal of questions requiring the reproduction of 'bookwork' material
- Removal of options questions so that students are required to answer more questions than normally
- Enhanced vetting of papers to ensure that solutions to the questions are not available online
- Adaptation of mathematical examinations to require students to give a detailed explanation or a reflective narrative of their reasoning
- Conducting student vivas after the assessment in cases where some form of cheating is suspected or when a student's performance has significantly / unexpectedly improved, and notifying all students beforehand that this will be done
- Use of software to set multiple-choice tests for completion online, with unique numerical data randomly assigned to each student

- Where practical, checking online sites that provide answers to student questions, e.g. <https://www.chegg.com/>

Other forms of assessments may replace some or all examinations if suitably designed to demonstrate student attainment of learning outcomes.

It is good practice to ensure that a variety of assessment methods are used throughout degree programmes.

3. LABORATORY AND EXPERIMENTAL WORK

- a. Skills and knowledge expectations related to practical work will remain for non-theoretical programmes and these must be met before the programme ends.**
- b. Skills and knowledge expectations related to the development of experimental understanding in theoretical degrees remain and these must be met before the programme ends. Departments that currently offer practical work for theoretical degrees may adjust their programmes to meet the requirements through other methods e.g. remote experiments in order to maximise laboratory time for non-theoretical programmes.**
- c. If it is not safe to run physical laboratories on-campus, then suitable remote, at-home or virtual/simulated activities may be used, as partial or complete replacements. Departments should have plans in place to deal with local or national lockdowns or any situation that would prevent attendance in the laboratory.**
- d. At each department's next accreditation assessment, the IOP will require a narrative of how these replacements develop practical-related skills and prepare students for an eventual return to laboratory work either in the next stages of their degree or future employment.**
- e. The IOP accepts there will be reduced access to onsite laboratory work for students in order to comply with social distancing requirements. However, it expects that departments will not reduce the overall number of credits or hours spent on experimental work within a given module, however it is delivered.**
- f. Departments should ensure they consider the needs of all students and provide equality of opportunity. If extended hours for laboratory work are to be used, the department should consider the needs of**

students who may have caring or childcare responsibilities, as well as ensuring adequate first aid provision.

- g. Departments may need to make individual adjustments for students that may be concerned over their presence in the laboratory due to shielding or underlying health conditions for themselves or those they are in close contact with. This is appropriate and will not affect accreditation.**
- h. Designated undergraduate and postgraduate teaching laboratories must continue to be used for those cohorts, if safe to do so, and not re-purposed, e.g. for research.**

Consideration should be given to the learning outcomes expected for individual experiments. If the learning outcomes for a particular activity focus on data analysis and interpretation or largely seek to apply underlying physics concepts using familiar equipment then pre-generated data could be used to enable lab time to be prioritised for learning outcomes that can only be met in the lab.

If pre-generated datasets are used, it is important to ensure that students can see and understand the equipment used to generate them.

Hybrid or blended approaches may be used to meet learning outcomes, and students working together may participate in an experiment through different media, provided the learning outcomes are achieved by each student over the course of her/his degree.

4. PROJECTS

- a. Final year projects or dissertations must be carried out by all students and must be summatively assessed.**
- b. Project work must continue to be passed and contribute toward degree classification for integrated master's programmes.**
- c. Departments must have plans in place to allow project work to continue should access to campus be restricted.**
- d. Departments should continue to provide experimental projects where possible, but it is accepted increased use of theoretical and computational projects may be necessary for the time being. Where experimental projects are offered departments should ensure they have a plan in place should time in the laboratory be curtailed at short notice.**

Consideration should be given in assessment to how restrictions on lab spaces and equipment due to COVID-19 have impacted upon students' work, including students' own accounts of this.

Supervision meetings should continue to take place regularly either in person or remotely. Student preference for how meetings are held should be taken into account.

If a department chooses to use electronic lab diaries/notebooks, these should preserve the role of a tool for the real-time capture of pertinent information which may be used by the student or another person to repeat the experimental work. In particular, they should be administered so that it is not possible for students to edit, or add to, data which has been entered after the relevant experiment has finished.

5. SKILLS

- a. **The skills areas identified in *The Physics Degree* must not be sidelined and departments must continue to ensure that students develop the expected broad range of skills.**
- b. **Development of skills must be such as to enable students to meet their programme learning outcomes by the time their programmes end, and departments must endeavour to assess this development fairly.**
- c. **Students should continue to develop their communication skills – written, visual and oral, though the IOP appreciates that the means to achieve this may need to be changed.**
- d. **Students should continue to gain experience of group work and each student's contribution should be identifiable and assessed.**

Group work is defined as work done interdependently toward one or more shared goals, in groups of at least 4, with division of responsibilities, and meetings for planning and progress monitoring. Students need not be physically co-located to undertake group work and it need not be a large group project. Science is collaborative and the skills developed during group work is an essential component of physics degrees.

The Institute encourages the use of online conferencing technology, for students to present work to each other online, in appropriate contexts. This fosters highly-valued communication skills.

6. STUDENT WELFARE, EQUALITY, DIVERSITY AND INCLUSION

- a. Pastoral oversight and student support systems must remain in place, in a suitably adapted form. Departments should put in place robust mechanisms to identify students who are struggling to engage with online learning and have processes to support these students.**
- b. Diversity and inclusion must be considered in all changes made.**
- c. The particular circumstances of individual students should be taken into consideration when adapting processes, where appropriate.**

Opportunities should be provided for students to access peer support. The IOP expects that any underlying health conditions students have be taken into consideration, as well as any childcare or caring responsibilities. Departments should endeavour to provide equitable access to resources, e.g. technology, study space, peer support network. They should also aim to mitigate the effects of differences in study environment, where possible. Particular attention should be given to the fostering of a collegiate atmosphere of peer engagement for first years, particularly if their experimental work is carried out in greater isolation than under normal circumstances. Departments should ensure that channels for students to raise concerns privately are still available.