

## Department Annual Monitoring Report

Departmental Information	
<b>Department</b> (or School, Institute, Centre, as appropriate)	Department of Physics
<b>Faculty</b>	Faculty of Natural Sciences
<b>Author of report</b> (including job title)	Carl Paterson (Director of Undergraduate Studies)
<b>Period covered by the report</b>	2018-19 academic year
<b>Date report produced</b>	05 November 2019
<b>Deadline for submitting report</b>	06 November 2019
<b>X This report has been discussed with student representatives and updated, where required, to reflect this dialogue</b>	

Programmes within the scope of this report
Physics (BSc 3YFT)
Physics (MSci 4YFT)
Physics and Music Performance (BSc 4YFT)
Physics with Science Education (BSc 3YFT)
Physics with Science Education (MSci 4YFT)
Physics with Theoretical Physics (BSc 3YFT)
Physics with Theoretical Physics (MSci 4YFT)

Physics with a Year Abroad (MSci 4YFT)
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**Collaborative Programmes within the scope of this report (e.g. joint award, double award, collaborative Imperial award)**

Only collaborative programmes where the College is the lead administrative party and responsible for the quality and standards

Programme	Partner
Physics and Music Performance (BSc 4YFT)	Royal College of Music
Physics with Science Education (BSc 3YFT)	Canterbury Christchurch University
Physics with Science Education (MSci 4YFT)	Canterbury Christchurch University

**Collaborative Modules within the scope of this report (e.g. collaborative module agreements, where modules do not fall within the collaborative programme(s) above)**

Only collaborative modules delivered by partners which contribute to collaborative programmes where the College is the lead administrative party and responsible for the quality and standards

Module	Partner

Where there are significant issues in relation to collaborative programmes and/or collaborative modules that require further action by the Department, these must be summarised in **Section 7 Collaborative Provision** and **Section 10b Future Action Plan** only

## **Section 1: Departmental Overview and Context**

- Summarise the key features of the Department's provision, including support for wellbeing, or provide a link to the Department's webpage where this information is available
- Provide a short evaluation of the Department's provision (e.g. identify overarching themes, notable achievements and/or staff developments)
- Highlight any major programme changes delivered in the period covered by the report or planned changes for the next academic session
- Describe the process for project allocation and what time of year this takes place (postgraduate taught programmes only)

The Department of Physics is one of the largest Physics Departments in the country. It attracted over 1700 applicants in 2018-19 for a target intake of 240. Our undergraduate programmes are accredited with the IOP, (originally due for renewal in 2019, but this has been extended to 2020 while IOP introduce new accreditation criteria.) 2018-19 was the last intake on the pre-Curriculum Review programmes. All six of the undergraduate programmes have now undergone

Curriculum Review and are being introduced in the new modular framework from 2019, with substantial changes to the structure and content of the programmes. During Summer 2019, the main undergraduate computing suite has received major investment and has been completely overhauled. One of the Department's three main lecture theatres (capacity ~100) has been redeveloped into a new multi-use teaching space suitable for both active learning and more traditional diadactic teaching as part of the College Learning and Teaching Strategy. This has enabled us to change the way we deliver group teaching and we are trialling a new format of active learning seminars with the new curriculum. We are also renovating the areas adjacent to the redeveloped lecture theatre, working with student shapers, to create optimized spaces for study and discussions. The Department is focusing on plans to redevelop its main undergraduate teaching laboratories over the Summer of 2020.

Strengths	Issues
<p><b>Degree Attainment</b> Students perform strongly in the Department with a high proportion of first-class degrees while the Department continues to maintain strong academic standards.</p> <p><b>Student Destinations</b> Our graduates continue to be highly regarded and sought-after with a high proportion of recent graduates in employment or further study within six months.</p> <p><b>Curriculum</b> The Department has a strong international research reputation in a wide range of physics areas which continues to attract high-calibre students. Our teaching is strongly integrated with our research: the Department offers an impressive range of advanced electives many at the forefront of current research, taught by leaders in the field and it offers a broad range of final year projects, with most research projects carried out in the research groups.</p>	<p><b>Student Feedback</b> The NSS survey results are still weak. Particular issues highlighted include consistency of feedback and assessment and a lack of community.</p> <p><b>Learning Resources and Learning Environment</b> There is a shortage of informal space for students to study and discuss within the Department. Measures in the NSS action plan are attempting to address this, but this is still an issue that impacts community.</p> <p><b>Curriculum</b> The Curriculum Review highlighted issues of curriculum overcrowding and excessive workload, particularly in Y2.</p>

### Reporting within the following sections should be 'by exception'

- Where there is evidence of consistently good performance and no issues are identified, the relevant box should be marked and no further commentary is required
- Examples of good practice should be identified throughout the report and, where these could be implemented across College if suitably adapted, should be summarised in **Section 8: Good Practice/Commendable Achievements**
- Where there is significant deviation in quantitative data from one academic year to the next or recommendations within qualitative reports, these should be commented on in the relevant sections
- Where issues have been identified, these must be addressed with appropriate actions in the **Section 10: Departmental Action Plan**.

## Section 2: Non-Continuation and Degree Attainment

### Data:

- [Differential Outcomes Dashboard](#)
  - **Non-Continuation**
  - **Degree Attainment**  
(By Domicile, Sex, Disability Status, Ethnicity, POLAR4 Quintile, Index of Multiple Deprivation (IMD))

Departments should reflect on any significant trends or outliers in relation to Non-Continuation and Degree Attainment. It is at the discretion of the Department as to what constitutes an outlier.

Relevant TEF College and Subject benchmarks are included through Power BI, where available.

### Please mark as appropriate

<b>Yes</b>	Were there any significant trends or outliers in relation to student non-continuation?
<b>No</b> <input checked="" type="checkbox"/>	

<b>Yes</b>	Were there any significant trends or outliers in relation to degree attainment?
<b>No</b> <input checked="" type="checkbox"/>	

Although there are no significant outliers, the percentage of first-class degrees has increased to 52%. However, as noted by the external examiners this is explainable by a larger number of students graduating at the end of three years with BSc degrees.

## Section 3: External Examiner Reports

### Data:

- **External examiner reports and responses**

Individual programme responses to External examiner reports should have already been provided to the Quality Assurance and Enhancement Team. If not, please remind your colleagues to do so.

### Please mark as appropriate

<b>Yes</b> <input checked="" type="checkbox"/>	Were there any significant issues raised by External Examiners in their reports that require further action by the Department?
<b>No</b>	

Issues raised by external examiners that have resulted in an action must be included in **Section**

**10b: Future Action Plan.** No further commentary is required in this section as external examiner issues are addressed fully through a) programme teams' responses to external examiners and b) the College level external examiner report produced by the Quality Assurance and Enhancement Team.

## Section 4: Professional, Statutory and Regulatory Body (PSRB) and other external reports

Data:

- **PSRB accreditation reports and latest action plans (data held by Department)**

Where (re)accreditation visits have taken place in the reporting period, please state the programmes that have been (re)accredited and when the (re)accreditation agreement requires renewal. Recommendations from PSRB visits do not need to be stated in this section as full PSRB reports should be submitted with the annual monitoring report.

Please mark as appropriate

Yes	Did any PSRB (re)accreditation visits take place in the period covered by this report?
No <b>X</b>	

Issues raised by PSRB visits that have resulted in an action must be included in **Section 10b: Future Action Plan**. No further commentary is required in this section as issues raised in PSRB visits are addressed fully through programme teams' responses to PSRBs, which should be included as appendices to the annual monitoring report.

## Section 5: Student Feedback

Data:

- [National Student Survey \(NSS\) Dashboard](#) (undergraduate only)
- **Postgraduate Taught Experience Survey (PTES)** (postgraduate only, run biennially)
- **SOLE survey results**

The Department should reflect upon student feedback holistically and identify any key issues, themes or trends. The Department should reflect upon any other sources of student feedback such as Staff-Student Committees and local surveys. For postgraduate taught programmes, particular attention should be given to student feedback on project allocation, timing and the supervisory experience.

Please mark as appropriate

Yes <b>X</b>	Were there any significant issues, themes or trends arising from student feedback that require further action by the Department?
No	

SOLE results for the academic year show a slight but continued upward trend, and are overall comparable with the Faculty and the College. However reducing response rates are a significant concern for robustness and usefulness of the data.

The 2019 NSS survey result show a small but welcome improvement compared with the 2018 and 2017 surveys. Following the very disappointing results of the 2018 NSS survey, the Department produced an action plan in consultation with our students to address the issues raised by the survey. We are continuing to implement in full the measures set out there and detailed in the previous annual monitoring return. These measures include more staff-student informal social events, welcome-back teas for all years at starts of terms, advertising available teaching space for informal use and self-study by students, reducing work overload, personal tutor training and mid-course feedback surveys. The 2019 NSS survey, highlights again Assessment and Feedback as an area that needs particular attention. This year we are focussing particularly on restructuring the assessment and feedback for final year BSc and MSci projects and for Year 1 and Year 2 undergraduate laboratories to achieve more consistent and effective feedback.

## Section 6: Student Destinations

Data:

- [Differential Outcomes Dashboard](#)  
➤ Destinations

The Department should reflect upon any significant issues or changes in relation to trends in graduates' first destinations. The Department should highlight any employability initiatives offered and provide examples that have been particularly successful and could be communicated more widely.

Please mark as appropriate

Yes	Were there any significant issues or changes in relation to employment trends?
No <b>X</b>	

Please mark as appropriate

Yes <b>X</b>	Did the Department offer any employability initiatives?
No	

Employability skills (such as CV writing, internship applications, developing business cases, presentation skills) were part of the programmes delivered separate professional skills courses. These skills are embedded as part of the core modules in the new programmes from 2019. The Department also offers a number of electives including Communicating Physics and Entrepreneurship for Physicists that are pertinent to particular career paths.

## Section 7: Collaborative Provision

To be completed where the College is the lead administrative party and responsible for the quality and standards of collaborative programmes (e.g. joint award, double award, collaborative Imperial award) or where collaborative modules delivered by partners lead to College awards.

Where the College is not *directly* responsible for the quality and standards of collaborative

programmes or modules, the annual monitoring report completed by the partner (with College input) should be included as an appendix.

**Please mark as appropriate**

<b>Yes X</b>	Were there any significant issues in relation to collaborative programmes and/or modules that require further action by the Department?
<b>No</b>	

The BSc in Physics and Music Performance run jointly between the Department and the Royal College of Music has been through Curriculum review for Physics but is yet to go through Curriculum Review at the RCM, coinciding with the agreement between RCM and Imperial being due for renewal. The joint programmes with Canterbury Christchurch are no longer running.

## Section 8: Good Practice and Commendable Achievements

Summarise key instances of good practice. The Department is not expected to repeat all items where these have been summarised in other sections above, rather **identify key examples which could, if suitably adapted, be implemented elsewhere in the College.**

Example of good practice	Report Section Number (if applicable)
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<b>Physics Help Desks.</b> A rolling rota of teaching staff, admin staff and postgraduate students offer weekly informal lunchtime help desks on a variety of topics, both on technical physics and admin and general advice.	
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<b>Physics Options Fair.</b> The Department offers a very wide range of advanced electives in Y3 and Y4. To help students make informed decisions on their choice of electives, course leaders for elective make a short presentations about their modules at a Physics Options Fair.	
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In order to celebrate and promote excellence across the College please provide details of commendable achievements during the period covered by the report.

Example of commendable achievement	Report Section Number (if applicable)
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## Section 9: Recommendations for action at a Faculty or College level

Highlight specific matters relating to the delivery of programmes and the student experience more generally that may fall outside the Department's direct control and therefore require the attention of the Faculty and/or College. Where this may be a matter for further consideration by a specific Department or service within the College, please detail in the table below if known.

Matters raised in this section should be limited to aspects directly related to the student educational experience. Please only make realistic recommendations which it is appropriate to address/consider via the annual monitoring process, such as changes to College level policies or

procedures. Issues that could be considered to be part of the 'wider' student experience such as car parking, catering, transport or heating should not be included in this section. **Departments should be encouraged to refer these issues to the relevant service provider at the time and escalate these through the Faculty in a timely manner if they do not receive a satisfactory response. If the issue is still live and raised through annual monitoring, these issues should be referred again by the Faculty directly to the service provider.**

Where appropriate, matters raised in this section will be reported to the relevant Department or service within the College who will be expected to provide a formal response and, where necessary, to identify further action to address the issue.

Quality and standards issues for further consideration at College level	Responsible owner (if applicable)	Report Section Number (if applicable)



## Section 10a: Updated action plan

No.	Summary of the issue/area for enhancement and source(s) of evidence	Action proposed	Person responsible (name and job title):	Expected completion date	Date action completed / progress update:
1	Laboratory experiments and facilities are very dated. Evidence from IOP accreditation report and NSS results.	Review laboratory and computing teaching for Years 2 and 3 of our degree programmes with a view to making substantial improvements to the experimental programme and its associated assessment and feedback processes.	Dr Simon Bland, DUGS, Heads of Labs	October 2019	Upgrading of experiments and facilities has commenced in both labs with a second phase due this year (2019-20). Assessment and feedback has been reviewed and updated in Year 3 Lab.
2	Many good suggestions for review/improvement of examination management processes from our new external examiner.	DUGS and Examinations Coordinator to convene a meeting of examinations team to review suggestions, decide which can be implemented this year or carried forward, and monitor outcomes.	DUGS, Examinations Coordinator	Meet December 2018, Review at key points in March and June 2019. REVISED: Review March 2020, June 2020.	Some improvements implemented and noted by examiners June 2019. Action item kept for further examiners' suggestions to be reviewed for 2019/20.
3	Issues raised in Section 5 from NSS 2018 results	Prepare a Departmental action plan for submission to December Faculty Management Committee	HoD, DUGS	December 2018, Continued progress review by HoD, Teaching Committee and Staff-Student Committee	Dec 2018

## Section 10b: Future action plan

The action plan should only highlight key issues or areas to be addressed across the Department's programmes over the coming academic year. The action plan is intended to be a live document which should be updated throughout the year as appropriate.

Actions should be **SMART**: Specific; Measurable; Agreed; Relevant and Realistic; Time bound

No.	Summary of the issue/area for enhancement and source(s) of evidence	Action proposed	Person responsible (name and job title):	Expected completion date	Date action completed / progress update:
1	Improvements to Assessment and Feedback in Projects and Laboratory (NSS 2019)	Overhaul of feedback and assessment in Y1 and Y2 to ensure consistency and usefulness of feedback on lab work. Reduction in assessed workload and Y2 labs. Restructuring of feedback mechanisms and guidance for final year projects to ensure consistency of feedback.	Heads of Lab in Y1 and Y2. Head of BSc projects, Head of MSci projects, DUGS	June 2020	Revised assessment framework and structure for projects is in place for 2019-20 cohorts. Revised guidance and marking schemes are in place for Y1 and Y2 lab and are being implemented.
2	Review assessment for some elective modules with non-standard mark profiles and for the YA programme (external examiners)	DUGS convene meetings with module leaders and YA programme lead, to review assessment and benchmarking.	DUGS, Module leaders, YA coordinator.	January 2020	
3	Review procedure for considering degree borderline candidates (external examiners and exam board)	Review secondary classification criteria and revise method for considering promotion of borderline candidates.	Exams Coordinator, Board of Examiners	March 2020	

On completion, please return the completed form to the Quality Assurance & Enhancement Team (Michelle Galloway - [m.galloway@imperial.ac.uk](mailto:m.galloway@imperial.ac.uk))

## Appendices

The following sources of evidence and information should be submitted with the report by the **Department**:

Section 3:

- External Examiner responses (where these have not already been submitted to the Quality Assurance and Enhancement Team)

Section 4:

- PSRB accreditation report and latest action plan (if a PSRB visit was undertaken in the reporting year)

Section 5:

- Survey results (where the survey is managed by the Department)

Section 7:

- Annual Monitoring reports from collaborative partners (where the College is not directly responsible for the quality and standards of collaborative programmes or modules)

The following sources of evidence and information will be appended to the report by the **Quality Assurance and Enhancement Team**:

Section 3:

- Collated External Examiner reports

Section 5:

- SOLE survey results (where available)

Note: The following Dashboards are available through Power BI:

- National Student Survey results Dashboards
- Differential Outcomes Dashboards
  - Non-Continuation
  - Degree Attainment
  - Destinations