

Department Annual Monitoring Report

Departmental Information	
Department (or School, Institute, Centre, as appropriate)	Computing
Faculty	Engineering
Author of report (including job title)	Dr Tony Field (DUGS)
Period covered by the report	2018-19 academic year
Date report produced	
Deadline for submitting report	13 December 2019
<input checked="" type="checkbox"/> This report has been discussed with student representatives and updated, where required, to reflect this dialogue	

Programmes within the scope of this report
Computing (BEng 3YFT)
Computing (MEng 4YFT)
Computing (Artificial Intelligence and Machine Learning) (MEng 4YFT)
Computing (Management and Finance) (MEng 4YFT)
Computing (Visual Computing and Robotics) (MEng 4YFT)
Computing (International Programme of Study) (MEng 4YFT)
Computing (Software Engineering) (MEng 4YFT)
Computing (Security and Reliability) (MEng 4YFT)
Computing (Computation in Biology and Medicine) (MEng 4YFT)
Mathematics and Computer Science (BEng 3YFT)
Mathematics and Computer Science (Computational Statistics) (MEng 4YFT)
Mathematics and Computer Science (MEng 4YFT)

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

Collaborative Modules within the scope of this report (e.g. collaborative module agreements, where modules <u>do not</u> 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**

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)

Strengths

Pastoral Support: Following feedback from students in the last cycle, and along with other Departments, a new jointly-funded wellbeing advisor has been appointed. This has meant that many welfare-related issues can be addressed locally, rather than having to rely on College services. It has also reduced the load on the Department's student wellbeing officers. Anecdotally, this appointment has made a big difference. New Student wellbeing web pages have been developed to support this:

<http://www.imperial.ac.uk/computing/current-students/student-wellbeing/>.

Outreach: A new outreach officer has been appointed and this has helped to bring together a number of previously disparate activities under one umbrella. See the new Outreach web pages:

<http://www.imperial.ac.uk/computing/outreach/>

Curriculum: We are constantly reviewing the changes we have made to degree structures and content over the past several years. There are some remaining student load issues, which we will address, but previous changes appear to have succeeded in reducing load elsewhere without compromising content and educational quality.

Curriculum: Following the curriculum review we have included technical

Issues

Student Feedback: See the notes on NSS below.

Learning Resources and Learning Environment: We are asked not to comment on infrastructure in this report, but it is impossible to discuss the learning environment without pointing out the need for the refurbishment of our teaching and learning spaces and the need to fix general infrastructure problems with considerably more urgency than we are experiencing at present.

Admissions and diversity: Our proportion of female students in year 1, i.e. admitted in the 2018-19 cycle, has dropped to around 17% from around 22% the year before. The new Outreach programmes will hopefully help to address this long-term, but there remains an immediate shortfall in female applicants. Diversity in general within our student population remains an issue. We welcome the College's initiatives on widening participation.

<p>writing skills as part of a package of 'professional skills' into the first year of the undergraduate programmes. This will be evaluated in due course using feedback from students.</p>	
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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

Yes Were there any significant trends or outliers in relation to student non-continuation?
No

Yes Were there any significant trends or outliers in relation to degree attainment?
No

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

Yes Were there any significant issues raised by External Examiners in their reports that
No require further action by the Department?

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.

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Section 4: Professional, Statutory and Regulatory Body (PSRB) and other external reports	
Data: <ul style="list-style-type: none">• 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 <input type="checkbox"/>	Did any PSRB (re)accreditation visits take place in the period covered by this report?
No <input checked="" type="checkbox"/>	
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: <ul style="list-style-type: none">• 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 <input checked="" type="checkbox"/>	Were there any significant issues, themes or trends arising from student feedback that require further action by the Department?
No <input type="checkbox"/>	
The NSS results for MEng were significantly down on previous years. We attribute this to the introduction of several new 4 th year modules in the AI and security areas, all of which were taught by new staff and all of which were over-ambitious in their setting of coursework. We also had to recruit a GTA to teach half of a core module whilst the lecturer was on sabbatical and this did not go well. Emergency measures were put in place, e.g. we adjusted courseworks and cancelled others altogether, but students were already over-worked by the time the problems were identified. Unfortunately, a number of students were registered for all of these problematic modules. The figures suggest that the downturn in satisfaction was largely attributable to the experiences of those individuals and we hope that this is a one-off. The satisfaction levels for BEng	

remained in line with the previous year, which is reassuring, as we have worked hard to get this from 7X% to nearer 90% in recent years.

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 <input type="checkbox"/> No <input checked="" type="checkbox"/>	Were there any significant issues or changes in relation to employment trends?
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Please mark as appropriate

Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Did the Department offer any employability initiatives?
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We continue to offer industry-led student projects and run weekly Applications of Computing in Industry (ACI) talks, where there is strong competition for industry speaker slots.

The Department also provides extensive support for DoCSoc, which offers many opportunities for students to engage with industry and hone their technical and team-building skills.

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

Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Were there any significant issues in relation to collaborative programmes and/or modules that require further action by the Department?
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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
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	applicable)
<p>We are continuing to develop new software tools, and enhance existing tools, to support teaching, learning and assessment. These include:</p> <ul style="list-style-type: none"> • E-Marking: which manages electronic coursework submission and feedback. • Materials: which enables lecturers to manage repositories of lecture notes, problem sheets, specimen solutions etc. that are accessible to students. • Aureos: for supporting the tracking student submissions and attendance. • AnswerBook : a platform for administering electronic examinations. • Lexis: a locked-down environment for running computer-based laboratory tests under examination conditions. • DoCPA: a replacement for WebPA, which facilitates peer evaluation. • LabTS: which provides support for programming assignment distribution, submission and continuous automated testing. • Codesnips: which allows lecturers to embed links to runnable code examples in lecture notes. • EPSS: A secure examination paper submission and review system. This is accessible to internal and external examiners, and exam administrators. <p>Where appropriate, the code has been made open-source and students have been encouraged to contribute to its ongoing development. We recently held a hackathon specifically dedicated to this.</p>	
<p>We make extensive use of Piazza, an on-line Q&A forum that puts students in touch with lecturers, GTAs and fellow students for every module. This is used extensively for clarifying technical issues arising from lectures, notes, coursework exercises, past examination questions etc. It is also used by lecturers to communicate logistical/organisational issues and to update students regarding supporting materials, coursework feedback etc.</p> <p>We have also set up per-year Piazza forums which the DUGS uses to inform students of more general issues and gather opinion.</p> <p>To simplify the administration of Piazza we have developed software that automatically enrolls staff and students to module forums based on registration data in our internal teaching database.</p>	
<p>We are in the process of appointing a new Student Experience Officer who will monitor all aspects of the student experience and provide a first line of contact for students when issues arise. They will report to the Directors of Studies and will provide updates at Teaching Operations Committee meetings.</p>	
<p>We continue to promote outreach as part of our undergraduate curriculum through the “Communicating Computer Science in Schools” module, which is open to 3rd and 4th year students. This year 20 students are registered; they will contribute to classroom teaching in local schools.</p>	

We introduced our first “Ethics Fest” event, a two-day professional standard student conference, complete with a keynote speaker and presentations from students on ethical issues that interested them. This was designed to help students understand the wider societal consequences of research in computing, meet professional accreditation requirements and interest them in improving their skills in presenting to wider audiences. A similar “Research Fest” event is being run in 2019-20, focusing on research skills.	
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)
Principal Teaching Fellow, Anandha Gopalan, was awarded one of the 2019 President's Awards for Excellence in Societal Engagement.	

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)
The student reps have asked to reinforce our ongoing message about teaching space, so it is useful to include their response to this section: “... the only issue that seems to come up repeatedly ... and is negatively affecting the student’s educational experience is the general shortage of space for undergraduates.		

<p>This includes lecture theatres being too full (for 3rd Year Robotics, for example) or the shortage of group working spaces (given the number of group projects that we have) in Huxley.”</p>		
<p>There have been some substantial delays resolving plagiarism cases. In one case a student’s results were withheld for an examination offence in May that was deemed minor, but it took until July for the case to be reviewed. It would be helpful for cases that are obviously not contentious to be resolved quickly.</p>	<p>Discipline</p>	
<p>For students with disabilities there have been some delays receiving recommended reasonable adjustments. We believe this may be due to short-staffing, so the problem may be temporary.</p>	<p>DAS</p>	

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	Assessment and feedback (NSS)	Implementation and evaluation of exploratory workflows to support electronic coursework submission, marking and feedback.	Rob Chatley (Deputy DUGS)	June 2019	Completed Autumn 2019
2	<u>Environment (NSS, Piazza forums etc.)</u>	Continued improvements to the environment, including student spaces and air quality in labs.	DUGS, DoC Operations Manager and Estates	N/A	No longer applicable to this report
3	Student load (NSS, SOLE)	Publish new guidelines on coursework design, marking and feedback	Tony Field (DUGS)	September 2019	September 2019
4	Coursework weighting (SOLE)	Raise default coursework weighting from 15% to 20% for 3 rd and 4 th year modules and introduce higher weightings (30% and 50%) weighting for selected modules	Tony Field (DUGS)	September 2019	September 2019

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	Assessment and feedback (NSS)	Ongoing development of new on-line tools to support student teaching, learning, assessment and feedback	Rob Chatley (Deputy DUGS)	Ongoing	Ongoing
2	Environment (NSS)	Refurbish main teaching laboratory area, including social spaces and lecture theatres	Daniel Rueckert (HoD) Anne O'Neill (Operations Manager)	Ongoing	Started summer 2019
4	Student load (NSS, SOLE)	Review coursework exercises and schedules for problematic 4 th year modules and monitor implementation	Tony Field (DUGS)	March 2019	

On completion, please return the completed form to the Quality Assurance & Enhancement Team (Michelle Galloway – 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