

BoS 17 January 2024

Wednesday, 17th January 2024 2:15pm

Teams | Faculty of Science Board of Studies

Attendees

Attended

Susan Barker (for minute 7527)

Zoe Burke

Andrew Burrows

Duncan Craig (Chair)

Susan Crennell

Charlotte Dodson

Marguerite Hallett (Secretary)

Amanda Harper

Matthew Jones

Eamonn O'Neill

Fei Qin

Philip Rogers

Tim Rogers

Gan Shermer

Özgür Şimşek (for minutes 7525 and 7526)

Jeyabal Sivaloganathan

Gunnar Traustason

David Tsang

Ventsislav Valev

Michael Wilson

Rhod Woodhouse

Michael Wright

Did Not Attend

Florin Bisset

Sarah Upendra Chandratreya

Ffion Gould

Philip Ingham

Tony Shardlow

Dmitry Skryabin

Stephen Ward

Miranda Yafi

1.0 Welcome and Quorum (7523)

The Chair welcomed members, noted apologies and observed that the meeting was quorate. In particular, the Chair welcomed Professor Özgür Simsek, who was attending to present, alongside Professor Eamonn O'Neill, the two new MSc programme proposals, and Professor Susan Barker, who was attending to present the MPharm (Hons) Pharmacy at the University of Plymouth Year 0 (Preparatory Year).

2.0 Declarations of Interest (7524)

The Chair declared a conflict of interest in that Professor Susan Barker is his partner.

3.0 New Programme Proposal: MSc Advanced Machine Learning (7525)

Professor Eamonn O'Neill and Professor Özgür Simsek presented this item.

The Board considered the following documentation:

MSc AML and MSc AI summary (Paper 119A).

QA3.1 Resource Implications (Paper 119B).

QA44 Annex B Course Specification (Paper 119C).

QA3.3 Market Information (Paper 119D).

QA3.6 Unit Summary Information required for the Prospectus (Paper 119E).

Professor E O'Neill introduced Professor Özgür Simsek as Deputy Head of Department, and Head of the Artificial Intelligence (AI) Group. Professor E O'Neill commented that AI and Machine Learning are terms bandied around a lot in the press and it can be very unclear what differentiates them. The Department has been working with Business Development and Marketing to explore the landscape and develop a plan to offer the two complementary programmes, alongside an MSc in AI proposed by the Faculty of Engineering and Design and related programmes in the Department of Mathematical Sciences. This portfolio will be branded and marketed as 'AI at Bath' and will cover the entire market. The aim is to be clear on what is being offered upfront in the marketing and recruitment and to offer complementary programmes, thereby enabling students to transfer between courses if needed.

Professor Ö Simsek explained that the new programmes would be launched alongside the Department's Curriculum Transformed MSc programmes.

Professor Matthew Jones enquired as to whether the University will provide sufficient computer lab space and computational resource to support the new programmes. Professor E O'Neill

commented that nobody knows how computational resource will evolve in the next 5 to 10 years in terms of computers on premises vs cloud vs a hybrid arrangement, but that the ideal scenario would be that as all programmes evolve across campus the University would support them with the resources they require. Professor Ö Simsek reported that the Department had planned to be able to run the new programmes with local departmental resources if needed. The Chair reported that the proposals had been well received by UEB, partly because they represent an approach that UEB wishes to see replicated across campus. The Chair had informed UEB that the Department could run the new programmes satisfactorily using current resources but had questioned whether this was how it wished to operate. The Chair had suggested that UEB start taking a more strategic view; if staff are being asked to be imaginative in developing new courses, particularly in the PGT space, the infrastructure needs to be developed to go alongside that. The Chair asked the Department to keep him informed of any concerns as they arise in terms of the infrastructure to deliver.

Professor Jeyabal Sivaloganathan enquired as to whether the new programmes would be more vulnerable than most to misuse of AI tools in relation to academic integrity and data security. Professor Ö Simsek commented that this was an issue affecting all disciplines and there was no reason why the new programmes would be particularly impacted. The University has adopted the Russell Group Principles for using Generative AI in Education and guidance on an assessment categorisation model has been produced by the CLT. Professor J Sivaloganathan enquired as to whether site licences would be needed for all the major AI systems for the new programmes. Professor Ö Simsek explained that the content of the new programmes is already being taught at undergraduate level, e.g. natural language processing, ChatGPT.

Professor Ö Simsek explained that the MSc Advanced Machine Learning is designed for people who want to explore deeper into machine learning. The programme will cover state of the art elements and will include reading research papers. It will follow closely the latest developments in machine learning and cater for students aiming to become experts in machine learning, enabling them to move into PhD positions or positions in industry that require sophisticated, innovative applications of machine learning and possibly research labs in industry, e.g. for DeepMind, Google, Amazon.

Professor Andrew Burrows enquired as to why the MSc was titled 'Advanced' Machine Learning whereas the other MSc was just Artificial Intelligence and suggested that this could pose a risk in terms of creating a perception that the MSc AI is not advanced. Professor O'Neill explained that this was a marketing and branding decision based on a broader campaign of distinguishing the programmes. The marketing information will make it clear to potential students what the differences are. Professor A Burrows flagged some inconsistencies in the programme title nomenclature in the documentation.

Action: Address inconsistencies in the programme title nomenclature in the documentation.

Professor E O'Neill explained that at one point the Department had considered designing the MSc AI programme as a conversion course, which would have placed it further towards 'generalist' than 'advanced'. Professor Ö Simsek explained that 'Advanced' had been included in the MSc Machine Learning title as a result of focus groups conducted with industry and students.

Dr Rhod Woodhouse enquired as to whether the Department was satisfied that the Programme Learning Outcomes were all at Masters level, e.g. the Machine Learning Paradigms learning outcome refers to 'appreciate' the principles. Professor E O'Neill explained that the Department had not wanted to make the Learning Outcomes too specific and binding or inflexible in terms of ability to adapt delivery from lessons learned as the programmes are delivered, but agreed to double check the Learning Outcomes in terms of level.

Action: Review whether the Programme Learning Outcomes are appropriately couched at Masters level.

The Board agreed Stage 1 Initial Approval (prior to consideration by APC on 21 February) of the proposal for a new MSc Advanced Machine Learning degree, in the Department of Computer Science, for commencement from 2025/26, subject to i) inconsistencies in the programme title nomenclature in the documentation being addressed, and ii) the Department reviewing whether

the Programme Learning Outcomes are appropriately couched at Masters level.

4.0 New Programme Proposal: MSc Artificial Intelligence (7526)

Professor Eamonn O'Neill and Professor Özgür Simsek presented this item. See minute above for general issues raised.

The Board considered the following documentation:

QA3.1 Resource Implications (Paper 120A).

QA44 Annex B Course Specification (Paper 120B).

QA3.6 Unit Summary Information required for the Prospectus (Paper 120C).

Professor Ö Simsek explained that the Department expects the MSc AI programme to appeal to a broader audience. It will cover mainly machine learning and other aspects of AI, e.g. logical reasoning and state space search which is used by DeepMind.

The Board agreed Stage 1 Initial Approval (prior to consideration by APC on 21 February) of the proposal for a new MSc Artificial Intelligence, in the Department of Computer Science, for commencement from 2025/26, subject to i) inconsistencies in the programme title nomenclature in the documentation being addressed, and ii) the Department reviewing whether the Programme Learning Outcomes are appropriately couched at Masters level.

The Chair thanked Professor E O'Neill and Professor Ö Simsek for their hard work in designing the programmes and getting them to this point, and wished the Department every success with the new courses.

5.0 MPharm (Hons) Pharmacy at University of Plymouth Year 0 (Preparatory Year) (7527)

Professor Susan Barker presented this item.

The Board considered the following documentation:

Year 0 summary (Paper 121A).

Appendix 1 QA20 Form 1a Preliminary Enquiry (Paper 121B).

Appendix 2 QA20 Annex B indicative responsibilities (Paper 121C).

Appendix 3 QA3.1 Resource Implications (Paper 121D).

Appendix 4 QA3.3 Market Information (Paper 121E).

Appendix 5 GPhC Step 1 accreditation report (Paper 121F).

Appendix 6 Programme risk assessment (Paper 121G).

Appendix 7 QA44 Annex B Course Specification (Paper 121H).

Appendix 8 QA3.6 Unit Summary Information for Prospectus (Paper 121I).

Professor S Barker introduced herself as a Professor of Pharmacy who specialises in manufacture of medicines and development of new ways of delivering drugs into the body. Approx. 1 year ago she stepped down as Head of Medway School of Pharmacy and is now working as an academic consultant on the Plymouth project with Dr Philip Rogers and Ms Lyn Hanning in the Department of Life Sciences. Professor S Barker explained that her role is to help with the transition of the MPharm to Plymouth from an academic perspective. The MPharm is long established (Professor S Barker is a Bath MPharm graduate from the 1980s) and well regarded; it is one of the top in the country. The MPharm receives very good student feedback. When students graduate from the MPharm, they have to complete a year's professional training,

now known as foundation training, at the end of which there is an examination run nationally by the GPhC and the Bath graduates come out very close to the top. The Department of Life Sciences (Pharmacy & Pharmacology) has ranked either the highest or second highest, over the last few years, of all the Pharmacy Schools nationally for student results in this examination. Pharmacy is a shortage occupation which means that there is a dearth of pharmacists, particularly in the extremities of the country, including the South West (SW) Peninsula. Consequently, the NHS approached the University to increase the number of pharmacy graduates in the SW region, with the intention that they would remain in the region and increase the pharmacy workforce. Therefore, it was decided that the University would work with the University of Plymouth to run the MPharm at Plymouth, by Bath staff with the students being Bath graduates. Preliminary accreditation has been given by the GPhC. Full accreditation cannot be sought until the first cohort of students graduate. Applicants are currently being interviewed and the first cohort of 25 students will start the MPharm at Plymouth from 2024/25. One of the challenges within pharmacy is students having the right educational background to start at Year 1. They are required to have A level Chemistry or equivalent and Maths and Biology. Consequently, there has been a movement across the country to have a preliminary Preparatory Year entry point. This has been called Year 0 to accord with Years 1-4 of the MPharm. The number of students applying to courses such as pharmacy is lower in the SW than the national average, hence the need for an extra, lower level (Year 0) entry route. As with the MPharm, the Year 0 will be managed out of Plymouth but the students will be Bath students. Once students have successfully completed Year 0 they will progress into Year 1 of the MPharm. The Year 0 is not a standalone course in that in order for students to access funding, and for the University to charge a £9,250 fee, the Year 0 must be tied to the MPharm. The Year 0 will be subject to GPhC accreditation; it is a pharmacy entry qualification, not a general, standard science background qualification. Half of the Year 0 units will be Plymouth owned and delivered (biology and interprofessional learning). Plymouth already use these units for their healthcare students entering at Year 0, who go on to study medicine, dentistry and radiography. The other half of the units will be Bath owned and delivered (pharmacy and professional skills, chemistry and maths). The MPharm students will be expected to work with the Plymouth healthcare students in the upper years when they do their interprofessional learning, so it makes sense for them to work with these students in Year 0 as well.

Dr Rhod Woodhouse commented that he had overseen a Year 0 preliminary year in Cardiff for Optometry. It was originally intended for mature students or students with a non-science background. However, applicants had generally taken the relevant A levels but had not achieved the grades they wanted. Dr R Woodhouse enquired whether there were any plans to mitigate against this. Professor S Barker explained that the Year 0 would have as wide an access as possible. She reported that at Medway School of Pharmacy, the Year 0 had attracted students who had taken relevant A levels, but had not achieved the grades they wanted, students who had completed BTECs and students who had completed a mixture of both. In addition, in order to upskill the pharmacy workforce, a range of qualifications were offered to pharmacy technicians, from fairly basic to quite senior, who then might choose to complete an MPharm degree. These students would typically be mature, e.g. in their 30s. All candidates will be expected to have some background in science, because the Year 0 is a 1 year programme that will effectively substitute for A levels, so it will be quite intense. There is a lot of content to cover in a relatively short period of time.

Dr P Rogers commented that approx. 9 out of 30 Schools of Pharmacy in the UK have a Year 0 (or equivalent) with a variety of entry standards. Bath would not wish to go too low with the A level standards required. An example of a likely candidate for Year 0 might be someone with A levels in Maths, Biology and a non-science, but lacking Chemistry A level. Dr R Woodhouse commented that the students who tended to perform the best at Cardiff were those who had completed a non-science A level alongside science A levels, because they tended to have more rounded experience.

Dr R Woodhouse enquired whether Bath being responsible for half the Year 0 units, and Plymouth being responsible for the other half, which exist already, might result in siloing with the two sets of units being run slightly differently. Professor S Barker explained that the interprofessional learning unit in Semester 2, that builds on the biology units in Semester 1, gets

all of the different healthcare students working together, which will feed through into the following years. Plymouth and Bath staff are already working together closely to ensure that an engaging pharmacy flavour is added to the interprofessional learning unit, e.g. via scenarios involving patient activities, workshops and examples.

The Board agreed Stage 1 Initial Approval (prior to consideration by APC on 21 February) of the proposal for the MPharm (Hons) Pharmacy at the University of Plymouth Year 0 (Preparatory Year), for commencement from 2025/26.

6.0 Minutes of the Previous Meeting (7528)

The Board approved the minutes of the previous meeting held on 15 November 2023 (Paper 122).

7.0 Matters Arising (7529)

There were no matters arising from the previous minutes.

8.0 Chair's Business (7530)

NSS and assessment:

The Chair noted that NSS had already officially opened, but would be launched at Bath with the student body in early February. Miss Amber Snary, Students' Union Education Officer, met with the Faculty Student Reps recently and produced a summary of their comments, which have been passed on to Heads of Departments (HoDs) for discussion with Directors of Teaching (DoTs). The Chair commented that a simple way to do well in the NSS is by avoiding making foolish, preventable mistakes / running assessments badly, e.g. not providing the appropriate information, not providing feedback on time, inconsistencies in practice in terms of sharing previous exam papers. The Chair encouraged HoDs and DoTs to check standards, challenge staff where necessary, share good practice, and ensure adherence to the recently disseminated Faculty policy on examination paper scrutiny. The Chair reminded members that Bath does well in the NSS, well above sector averages, except in the area of Assessment and Feedback where Bath performs well below sector averages, and this is an institutional problem, not just within the Faculty, that needs to be addressed. Professor A Burrows added that the NSS no longer includes an overall satisfaction score which means that league tables tend to focus more on other aspects, such as Assessment and Feedback. The Chair highlighted the need to reduce errors in examination papers and the frequency of scaling; scaling should be applied as a last resort, rather than as a routine tool. Assessments need to be set at an appropriate level and if evidence comes to light that the level is not where it should be, this needs to be fully addressed at the earliest opportunity. It is our responsibility to get the exams right for when students sit them, rather than retrofitting via mark adjustments / scaling.

9.0 Report on Research Grants (7531)

The Board received details of awards accepted by Research and Innovation Services from 8 November 2023 until 9 January 2024 (Paper 123).

The Chair congratulated in particular Dr Ruth Bowness, Department of Mathematical Sciences, for her award of £2,003,405 from the MRC for research into Mathematically Modelling Tuberculosis.

Professor O'Neill highlighted that Dr Xi Chen, Department of Computer Science, had been

awarded almost £300k as a New Investigator Award (NIA). This is the second in a pipeline of approx. £1million in NIAs the Department is working on. The first two were both successful in achieving funding. Dr X Chen came first on the panel.

10.0 Faculty Learning, Teaching and Quality Committee (7532)

The Board noted the minutes of the meeting held on 29 November 2023 (Paper 124).

11.0 Faculty Research and Knowledge Exchange Committee (7533)

The Board noted the minutes of the meetings held on 13 November (Paper 125A) and 11 December (Paper 125B) 2023.

12.0 Faculty Executive Committee (7534)

Purpose - For Noting

The Board noted the minutes of the meeting held on 21 November 2023 (Paper 126).

13.0 Faculty Doctoral Studies Committee (7535)

The Board noted the minutes of the meeting held on 9 November 2023 (Paper 127).

14.0 University Board of Studies (Doctoral) (7536)

The Board noted the minutes of the meetings held on 11 October (Paper 128A) and 15 November (Paper 128B) 2023.

15.0 Staff Student Liaison Committee meetings (7537)

The Board noted the minutes of the meetings held on:

Department of Life Sciences: Biology and Biochemistry: 25 October (Paper 129A), 29 November (Paper 129B) and 29 November (PGT) (Paper 129C) 2023.

Department of Chemistry: 1 November (Paper 130A) and 29 November (Paper 130B) 2023.

Department of Computer Science: 9 October (PGT online) (Paper 131A), 1 November (Paper 131B), 6 December (Paper 131C) and 12 December (PGT) (Paper 131D) 2023.

Department of Mathematical Sciences: 25 October (Paper 132A) and 29 November (Paper 132B) 2023.

Natural Sciences: 1 November (Paper 133A) and 6 December (Paper 133B) 2023.

Department of Life Sciences: Pharmacy and Pharmacology: 25 October (Paper 134A), 29 November (Paper 134B) and 1 December (PGT) (Paper 134C) 2023.

Department of Physics: 1 November (Paper 135A) and 13 December (Paper 135B) 2023.

16.0 Any Other Business (7538)

There was none.