ULSTER UNIVERSITY

REPORT OF A MEETING OF THE REVALIDATION PANEL: REVALIDATION UNIT 16G3 COMPUTING (NORTHERN REGIONAL COLLEGE)

23 November 2018

PANEL:
Dr D Barr, Head of School of Education, Faculty of Arts, Humanities and Social Sciences, Ulster University (Chair)
Dr C Acton, Lecturer, School of Applied Social and Policy Sciences, Ulster University
Dr T Abdullah, Academic Lead, Computing and IT, University of Derby.
Ms L Gearing, Director of Educational Strategies, Office of Teaching and Learning, Coventry University

APOLOGIES:
Dr N Ayre, Associate Head of the School of Computing, Ulster University
Ms C Wray, Student Representative, Northern Regional College

REVALIDATION UNIT CO-ORDINATOR:
Mr M Johnston, Northern Regional College

IN ATTENDANCE:
Mrs Maeve Paris, Faculty Partnership Manager, Faculty of Computing, Engineering and the Built Environment, Ulster University
Mr Brian McArthur, Academic Policy and Standards Officer, Ulster University

1   INTRODUCTION

1.1   The Panel met to consider the following provision within Revalidation Unit 16G3 Computing (NRC).

- FdSc Computing with CertHE Computing exit award (FT/PT) (Northern Regional College, Ballymena (Farm Lodge) and Newtownabbey campuses)

1.2   The FdSc Computing has been offered at Northern Regional College since academic year 2014/15, initially on the Newtownabbey campus, and from 2015/16, on the Ballymena Farm Lodge campus. The revalidated programme would be offered in both full-time and part-time modes at each of the College campuses. The programme comprises ten 20-credit point compulsory modules and a 40-credit point Work-based Learning module. Graduates of the programme would be eligible to apply for entry to level 5 of the following Ulster degree programmes offered on the Jordanstown campus:

- Full-time: BSc Hons Computing Science / BEng Hons Software Engineering
- Part-time: BSc Hons Computing Systems

1.3   The following are the minimum and maximum student intake figures recommended by the Faculty (based on the available staff and physical resources on each campus).

	Mode of Attendance	Year of 1st Intake	Year of 2nd Intake	Year of 3rd Intake	Year of 4th Intake	Year of 5th Intake
Maximum cohort size for each site recommended by Faculty	FT and PT combined	24	24	24	24	24
Minimum cohort size for each site recommended by Faculty	FT and PT combined	15	15	15	15	15

1.4   The Panel met initially with the College Senior Management Team comprising:

- Mr A Ballantine, Head of Department of Science and the Service Industry
- Mrs Tara Millar - Head of Science and Higher Education
- Mr J Nelson, Curriculum Manager for Computing
- Ms Gemma Goodrich – Course Director, Ballymena campus
- Mr Michael Johnston – Course Director, Newtownabbey campus

1.5   The Panel then met with a group of current students and finally, with the subject team to discuss the programme in detail.

2   DOCUMENTATION

2.1   The Panel received the following documentation:

- Agenda and programme of the meeting
- Guidelines for revalidation panels
- QAA subject benchmark statement for Computing (2016)
- QAA Foundation Degree characteristics statement (2015)
- External examiners' reports for the last two years
- Preliminary comments from the Faculty Partnership Manager (Form CA4)
- Preliminary comments from panel members
- Revalidation document

2.2   The following report is a summary of responses to Panel questions provided by each group that met with the Panel during the meeting.

3   MEETING WITH SENIOR MANAGEMENT TEAM

Introduction

3.1   Although recruitment was governed by MaSN, which had been cut for the current year to 237 places, the Computing provision, part of the STEM provision prioritised by the Department for the Economy (DfE), was important to the College. It was the only STEM subject offered across all campuses. The College hoped to extend the programme to other campuses and was prepared to

provide the necessary funding. As an added bonus, the foundation degree provided a progression route from the College's level 2 and level 3 Computing programmes.

Higher Level Apprenticeships

3.2   Alignment with the Higher Level Apprenticeship (HLA) scheme was currently under discussion with several employers. While considered last year, the College had been unable to embark on the scheme due to a lack of employer numbers. At that time, the DfE had confirmed the availability of funding. However, this year, unsolicited, a number of employers from a range of local industries including joinery, engineering and manufacturing companies, had approached the College. Because of employer enthusiasm, the College was optimistic that it would be able to introduce the scheme in the near future. If it proved successful, consideration would be given to extending the programme to the College's Magherafelt campus.

3.3   Regarding a suggestion that HLA and part-time students had different needs, the team opined that the foundation degree would meet the needs of both. The DfE view was that a foundation degree was a vehicle into employment and it was routine therefore to consult with employers in its design and development. The programme content had been discussed with employers and adjustments made at their suggestion. One example was that the *Database Systems* module had been moved to earlier in the programme. Employers had expressed their satisfaction with the content and therefore part-time and HLA students would be taught together. This was the approach taken for the College's engineering provision. Regarding timetable scheduling for part-time and HLA day release students, the team stated that employers were committed to adherence with the attendance requirements. The team confirmed that the current foundation degree had no part-time students.

Employment destinations

3.4   Despite the recent closure of two large employers in the Ballymena area, Michelin Tyres and the Gallaher Group, this has had no direct effect on graduate employability. The area was rich in SMEs and micro-businesses across a range of industries from retail to engineering and from manufacturing to medical. All companies, regardless of type, have an IT department. Some local employers contribute to programme delivery and the local business Advisory Board provides input three times each year.

Currency of content

3.5   Teaching of core technical skills such as the basic principles of programming and problem-solving skills would underpin the programme. Such skills were not related to one particular programme language and always remained current. The inclusion of six programme languages in the curriculum was necessary to meet the individual needs of a range of employers. The team described how students would move through the programme and how it would become more challenging the further they progressed. Programme languages changed very quickly so new developments during the 5-year approval period would be built into the curriculum. Graduates of the programme who progressed into an honours degree would be able to specialise at that stage. In response to a suggestion that the programme was not future proofed, that it did not take account of emerging technologies, the team stated that the primary aim was to create a firm foundation based on core skills on which developments in emerging technologies can be built as they arise. It

was pointed out that the University's processes permitted changes to content or indeed replacement of whole modules at any time during a programme's approval period.

Internationalisation

3.6   Internationalisation was a focus of the programme. It was impressed on students that the "sky's the limit", that the computing industry in particular was suited to operating globally. Examples of local companies working in the international market were provided. The College was currently looking at the possibility of international placements for the work-based element of the programme as well as short trips abroad. Teaching staff had extensive industry experience and links with local firms who operate outside Northern Ireland.

Assessment

3.7   The panel noted that the assessment strategy contained no written examinations. The team stated that they had moved to the use of more "controlled assessments" that were coursework based. This better reflected the workplace and employer needs by making the assessment strategy as practically based as possible. In the mathematics module, although containing no formal examination, a class test was carried out under formal examination conditions. The team suggested that their aim was for a more "real world context" as opposed to a regurgitation of facts that comes with formal examinations. This approach supported the 'preparation for work' agenda of a foundation degree. The team stated that, in addition, they were aware of conversations within the University regarding a move away from formal written examinations.

4   MEETING WITH STUDENTS

4.1   The Panel met with a group of students from the existing provision. A wide-ranging discussion took place in areas including induction, timetabling, placement preparation and assessment. All the students present felt that undertaking programme was a 'higher education' experience and all wished to progress into an honours degree at Ulster. The students were generally complimentary of the programme highlighting a number of positive areas in particular the coding and programming modules and the *Mathematics for Computing* module. The only negatives expressed related to the level 4 *Computer Technology* module which they felt was "a lot of work for something that was not relevant to the University degree" and the fact that results in the level 4 modules did not contribute to final classification. Regarding the latter, they acknowledged that this would not be the opinion of everyone in their cohort.

5   MEETING WITH COURSE TEAM

Student experience

5.1   The panel noted some differences in the success and attrition rates between the Farm Lodge and Newtownabbey campuses. The team referred to "life occurrences" unrelated to the programme such as personal and financial circumstances as the main cause. One example of how the team sought to ensure an equivalent experience was through a joint induction process at the beginning of the programme. Regarding a statistic indicating that in 2016/17 on the Newtownabbey campus, 44% of first year students required resits, it was suggested that the root cause had been the number of applicants "only just making the entry requirements".

Assessment Strategy

5.2 The team acknowledged that the assessment strategy was moving away from formal written examinations. Previously, the *Mathematics for Computing* module had included a written examination. This had caused high levels of stress amongst the cohort. The team suggested that the written examination simply reassessed earlier assessments. Moreover, students were drawn from a diverse range of backgrounds, some having recently studied mathematics to A level standard which was not the case with others and some whose studies had taken place many years previously. Consequently, formal examinations proved a struggle for some students. The team aim had been to achieve a balanced assessment strategy between the two extremes and the removal of a formal examination was considered the best way of achieving this. The new assessment strategy comprised two assignments within a computing context and one class test carried out under formal examination conditions.

5.3 There had been a great deal of discussion between the two campuses during development of the assessment strategy. Overall, the aim had been to create a strategy based in a 'real world' context. For example, the use of case studies was more realistic and students could therefore appreciate their relevance to the workplace. The team opined that examinations "were not a true test of the capacity good programmers".

Classification

5.4 The team was asked to respond to a student comment that a level 4 contribution to the overall classification for the programme would be welcomed. The team responded that they had never heard this opinion voiced before and thought that the whole cohort would not necessarily welcome the suggestion. The team had no strong view either way and stated that there were arguments for both approaches.

Modules

Computer Technology

5.1 It was suggested that in order to 'future proof' the *Computer Technology* module, that the team consider reducing the time spent on the "primitive technologies" freeing up three or four weeks for the inclusion of emerging technologies. The team stated that the module content had been updated but agreed to consider the suggestion.

Personal Development and Professional Practice

5.2 The team explained that the *Personal Development and Professional Practice* module had been moved from first year (level 4) to second year (level 5) because it was closely linked to the second year WBL module given that it contained subjects such as CV preparation and interview and presentation skills. Experience had indicated that students had often forgotten much of what they had learned by the time they moved into second year when these skills were needed in preparation for the WBL module. The module had been raised to level 5 through adjustment to the assessment strategy, the inclusion of peer feedback and assessment, and the introduction of entrepreneurial themes. During the module, employers would come into the College to interview for the placements in the WBL module.

<u>Work-based Learning</u>

5.3   The WBL module would be taken in semester 2 of year 2 in the full-time programme. However, preparation would begin in semester 1 through the personal and professional development module. Inter alia, students would have access to a 'How To' video which explained what students could expect at each stage of the work-based learning element. In addition, students would be taken through the whole process of CV preparation, job application, interview techniques and so forth. While they would be encouraged to identify their own placement site, staff would provide support where required through their own industry links. The course director would manage the overall process and on each campus, there would be one or two tutors dedicated to supervision of placement students. Some were paid placements and quite often students would be offered permanent employment.

<u>Modules (various)</u>

5.4   It was suggested that there was considerable overlap across modules, *Programming 1, Programming 2* and *Software Project Development.* The team responded that firstly, each of the programmes were taught in a different programming language. They then described the subjects covered in each of the modules and the developmental progression from one module to the next. The team's explanation satisfied the panel. A similar discussion followed regarding the web-related modules*, Interactive Web Authoring* and *Web Application Development* during which no issues or concerns were raised by the panel*.*

<u>Modules (issues raised by panel)</u>

- *Database Systems* – the assessment strategy involving an inter-dependency between assessments (i.e. those where completion of one assessment depended on successful completion of a previous assessment) disadvantaged students who performed poorly in the first assessment. Students should have a fair and equal chance of performing to their optimum in each assessment.

- *Cyber Security* – all resources necessary to support delivery of the module should be in place prior to commencement of the programme.

- *Work-based Learning* – the level of assessment should be reviewed in line with the University's 'Assessment Workload Equivalence Guide'.

- *Reading lists* – the reading list in each module should be reviewed and updated where necessary.

6   CONCLUSIONS

The Chair voiced the panel's disappointment that neither the College Vice-Principal, Teaching and Learning, nor the nominated College student representative for the panel, both of whose presence had been indicated in advance, had attended the meeting.

The Panel commended the Team on the following:

- Introduction of the 'Genius Hour' in the learning and teaching strategy, a key innovation

- Close collaboration between the course team on each campus, the employment of a joint induction programme being a good example

The Panel agreed to recommend to the Academic Standards and Quality Enhancement Committee that the provision within Revalidation Unit 16G3 be approved for the minimum and maximum intake figures indicated at Section 1 for a period of five years (intakes 2019/20 – 2023/24 inclusive) subject to the Panel's conditions and recommendation being addressed and a satisfactory response and a revised submission being forwarded to the Academic Office by *Friday*, *18 January 2019*, for approval by the Chair of the Panel.

Conditions

1) Address all issues detailed in the appendix to the panel report.
2) Elaborate on the proposed alignment of the programme with the Higher Level Apprenticeship (HLA) scheme making clear the proposed delivery model that would accommodate both part-time and HLA students.
3) Review the assessment strategy within each module [with particular regard to the absence of formal written examinations] and, where appropriate, revise.
4) Review the level of module, *Personal Development and Professional Practice*.
5) Provide written confirmation that all necessary resources to support delivery of module, *Cyber Security*, are or will be in place prior to commencement of the programme. The College Chief Executive should provide confirmation.
6) Review module, *Work-based Learning*, and in particular, its assessment strategy taking account of the University's WBL module template and its 'Assessment Workload Equivalence Guide'.
7) Review currency of each module, in particular, module, *Computer Technology*, to ensure the programme is future-proofed for the short to medium term.
8) Outline the academic progression through modules, *Programming 1*, *Programming 2* and *Software Project Development,* as discussed with the panel.

Recommendation

1) Review each module's assessment strategy ensuring, where applicable, that linked assessments (i.e. those where completion of one assessment depends on successful completion of a previous assessment) are decoupled enabling an equal starting point for all students for each assessment.

7   APPRECIATION

The Chair thanked the Panel members and in particular, the external members, for their valuable contribution to the revalidation process.

Ref: BMcA/panelreport/29/11/18